


ONKYO[®] SERVICE MANUAL

AUDIO VIDEO CONTROL RECEIVER MODEL TX-DS777

Black and Golden models

BMD	120V AC, 60Hz
BMP, BMPT, GMPT	230V AC, 50Hz
BMWT, BMWR, GMWT, GMWR	220-230V/120V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.



SPECIFICATIONS

AMPLIFIER SECTION

Continuous Average Power output (FTC)

All channels: 105 watts per channel min. RMS at 8 ohms, 2 channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.

135 watts min. RMS at 6 ohms, 2 channels driven from 1 kHz with no more than 0.1% total harmonic distortion.

Continuous Power output (DIN) 140 watts at 6 ohms
 Maximum Power output (EIAJ) 170 watts at 6 ohms
 Total Harmonic Distortion: 0.08% at rated power (Front)
 IM Distortion: 0.08% at rated power (Front)
 Damping Factor: 60 at 8 ohms (Front)

Input Sensitivity and Impedance

PHONO: 2.5 mV, 50 kohms

LINE (CD, TAPE, DVD,

VIDEO 1, 2, 3,4): 200 mV, 50 kohms

MULTICHANNEL INPUT

(FRONT L/R, SURROUND L/R, CENTER):

200 mV, 50 kohms

(SUBWOOFER): 36 mV, 50 kohms

COAXIAL 1, 2 (DIGITAL): 0.5 Vp-p, 75 ohms

Output Level and Impedance

Rec out (TAPE, VIDEO 1): 200 mV, 2.2 kohms

Pre out: 1 V, 470 ohms

Phono Overload: 110 mV RMS at 1 kHz, 0.5% T.H.D.

Frequency Response: 20 Hz to 100 kHz, +1/-3 dB (LINE INPUT)

RIAA Deviation: 20 Hz to 20 kHz, ± 0.8 dB

Tone Control

Bass: ± 10 dB at 100 Hz

Treble: ± 10 dB at 10 kHz

Signal-to-Noise Ratio

Phono: 80 dB (IHF A, 5 mV input)

CD/Tape: 100 dB (IHF A)

VIDEO SECTION

Input sensitivity/Impedance

(DVD, VIDEO 1, 2, 3,4)

VIDEO (Composite): 1 Vp-p, 75 ohms

Output Level/Impedance

(VIDEO 1, MONITOR)

VIDEO (Composite): 1 Vp-p, 75 ohms

TUNER SECTION

FM

Tuning Range: 87.5 — 108.0 MHz (50 kHz steps)

Usable Sensitivity

Mono: 11.2 dBf, 1.0 μ V (75 ohms IHF)

0.9 μ V (75 ohms DIN)

Stereo: 17.2 dBf, 2.0 μ V (75 ohms IHF)

23 μ V (75 ohms DIN)

50 dB Quieting Sensitivity

Mono: 17.2 dBf, 2.0 μ V (75 ohms)

Stereo: 37.2 dBf, 20 μ V (75 ohms)

Capture Ratio: 2.0 dB

Image Rejection Ratio

U.S.A. & Canadian models: 40 dB

Other area models: 85 dB

IF Rejection Ratio: 90 dB

Signal-to-Noise Ratio

Mono: 76 dB

Stereo: 70 dB

Alternate Channel Attenuation: 55 dB

Selectivity: 50 dB (DIN)

AM Suppression Ratio: 50 dB

Total Harmonic Distortion

Mono: 0.2%

Stereo: 0.3%

Frequency Response: 30 Hz — 15 kHz, ± 1.0 dB

Stereo Separation: 45 dB at 1 kHz

30 dB at 100 Hz — 10 kHz

AM

Tuning Range

U.S.A. & Canadian models: 530—1,710 kHz (10 kHz steps)

European & Australian models: 522—1,611 kHz (9 kHz steps)

Worldwide models: 531—1,602 kHz (9 kHz steps).

530—1,710 kHz (10 kHz steps)

Usable Sensitivity: 30 μ V

Image Rejection Ratio: 40 dB

IF Rejection Ratio: 40 dB

Signal-to-Noise Ratio: 40 dB

Total Harmonic Distortion: 0.7%

GENERAL

Power Supply:

AC 120 V, 60 Hz

AC 230 V, 50 Hz

AC 220-230 V and 120 V switchable.

50/60 Hz

Power Consumption:

6.2 A

520 W

Dimensions (W \times H \times D):

435 \times 175 \times 453 mm

17-1/8" \times 6-7/8" \times 17-13/16"

Weight:

USA & Canadian models: 16.3 kg, 35.9 lbs.

Others: 17.6 kg, 38.8 lbs.

REMOTE CONTROL

Transmitter:

Infrared

Signal range:

Approx. 5 meters, 16 ft.

Power supply:


Two "AA" batteries (1.5 V \times 2)


Specifications and features are subject to change without notice.

Power supply and voltage vary depending on the area in which the unit is purchased.

SERVICE PROCEDURES

1. Replacing the fuses

 This symbol located near the fuses indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

 Ce symbole indique que le fusible utilise est a rapide. Pour une protection permanente, n'utiliser que fusibles de meme type. Ce d'arnier est la qu le present symbol est appse.

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252196	12A-UL, Primary <D/W>
F902	252079 or	6.3A-SE-EAK or
	252245	6.3A-SE-TL250V,Primary <P/T/W>
F903	252075 or	2.5A-SE-EAK or
	252241	2.5A-SE-TL250V,AC outlet <P/T>
F941,F942	252160	2.5A-UL/T237,Secondary <D>
	252241 or	2.5A-SE-EAK or
	252075	2.5A-SE-TL250V,Secondary <P/T/W>

Note: <D>:120V model only
 <P>: European model only
 <T>: Asian model only
 <W>:Worldwide model only

2. To initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.

To perform a result, please follow the procedure below.

1. Press and hold down the VIDEO-1 button, then press the SPEAKER A button.
2. After "clear" is displayed, the preset memory and each mode stored in the memory, such as surround, are initialized and will return to the factory setting.

3. Safety-check out

(Only U.S.A. model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and screw on the back panel. Specifications: 3.3Mohm \pm 10% at 500V.

4. Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.

The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

5. Setting the AM tuning step frequency (Worldwide models only)

Worldwide models are equipped with a switch that controls the AM band tuning steps. Please set this switch to match the AM band tuning step frequency in your area.

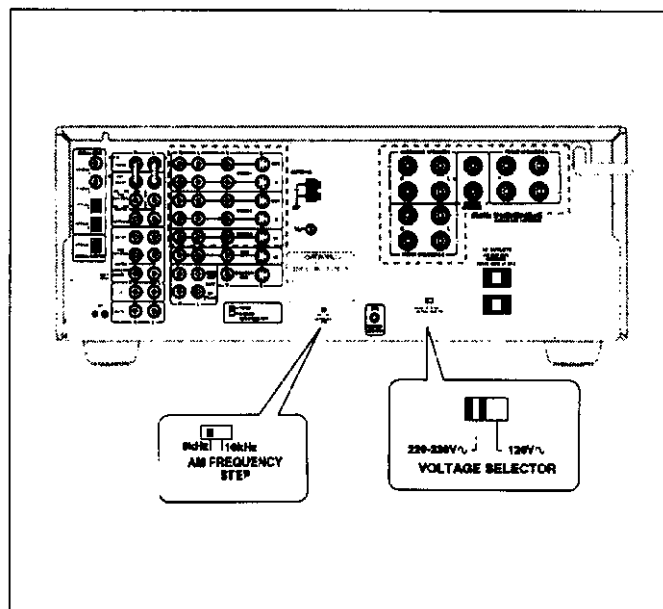
U.S.A. and Canada : 10 kHz

Other areas : 9 kHz

6. Setting the Voltage selector (Worldwide models only)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit.

1. Determine the proper voltage for your area: 220-230 V or 120 V.
2. If the preset voltage is not correct for your area, insert a screw-driver into the groove in the switch. Slide the switch all the way to the right (120 V) or to the left (220-230 V), whichever is appropriate.

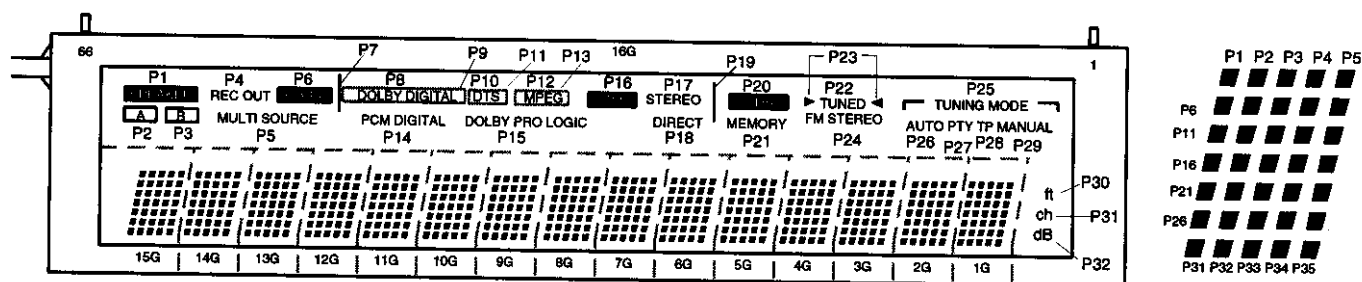


7. Changing the AM band step

With the exception of the worldwide models, a tuning step selector switch is not provided. When you change the band step, change the parts as shown below.

	To 10kHz	To 9kHz
R8085	Open	10k
R8086	10k	Open

FL TUBE VIEW



1. How to enter into Debug mode

During press and hold DSP key, press DISPLAY key.

Then "DEBUG MODE=NO" is displayed on FL tube.

During press and hold DSP key, press DISPLAY key again.

Then "DEBUG MODE=YES" is displayed on FL tube.

		0	1
15G,14G	Dialog normalization		
13G	DIR ERF	Digital In	No Digital In
12G	DIR AUTODATA	PCM	AC-3
10G,9G	DIR Address 03H	Refer to the table 2.	
8G,7G	DIR Address 04H	Refer to the table 3.	
5G,4G	Input mode	Refer to the table 4.	
3G	Mode	Refer to the table 5.	
2G	Surround mode	Refer to the table 6.	

Table 1

0X		0X		2X	
X=0	Null	7	Reserved	X=0	Silent
1	Dolby Digital	8	MPEG2 L1	1	DTS LD
2	Reserved	9	MPEG2 L2/3	2	DTS CD
3	Pause	a	Reserved	3	Linear PCM
4	MPEG1 L1	b	DTS1(512)		
5	MPEG1 L2,3/MPEG2 w/o	c	DTS1(1024)		
6	MPEG2 w/e	d	DTS1(2048)		

Table 4

D7	D6	D5	D4	D3	D2	D1	D0
ERF	0	~AUDIO	AUTO	PEM	FS1	FS0	FS96
0	0	0	0	0	0	0	0

Rst

Table 2

Audio bit	Pre-empha. output	Sampling frequency
0:Audio	0:Off	00:44.1kHz
1:Non audio	1:On	01:Off
		10:48kHz
		11: 32kHz

0	LFE:Off
1	LFE:On
8	Dolby surround encoder:Off
9	Dolby surround encoder:ON

Table 5

D7	D6	D5	D4	D3	D2	D1	D0
CV	STC	CRC	LOCK	V	0	BIP	PAR
0	0	0	0	0	0	0	0

Rst

Channel Status Validity

0:Valid

Table 3

DSP	When DTS		When DTS	
0	1+1	0	Mono	8
1	1/0	1	Dual Mono	9
2	2/0	2	L+R	a
3	3/0	3	(L+R)+(L-R)	b
4	2/1	4	Lt+Rt	c
5	3/1	5	C+L+R	d
6	3/2	6	L+R+S	e
		7	C+L+R+S	f

Table 6

PRINTED CIRCUIT BOARD-PARTS LIST

CAUTION: Replacement of the transistor of mark #, if necessary, must be made from the same beta group (HFE) as the original type.

POWER AMPLIFIER PC BOARD (NAAF-6600-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors			Diodes	
Q5001,Q5002	2210755, *	2SC1775A-E,	D5001,D5101	223163 or	1SS133 or
Q5101,Q5102	2210756, *	2SC1775A-F,	D5201,D5301	223205	1SS270A
Q5201,Q5202	2211732 or *	2SC1845-F or	D5401	223163 or	1SS133 or
Q5301,Q5302	2211733 *	2SC1845-E	D5601-D5607	223205	1SS270A
Q5003,Q5103	2210755,	2SC1775A-E,	D5608	224471303	MTZJ13C,Zener
Q5203,Q5303	2210756,	2SC1775A-F,	D5643,D5644	223163 or	1SS133 or
Q5403	2211732 or	2SC1845-F or		223205	1SS270A
Q5644,Q5645	2211733	2SC1845-E	D5647	224470512	MTZJ5.1B,Zener
Q5004,Q5104	2212115,	2SC2458-GR,		Coils	
Q5204,Q5304	2213284 or	2SC1740S-R or	L5201,L5301	231176S	S-1.3C <P/T/W>
Q5404	2215864	NP KTC3199-GR		Capacitors	
Q5005-Q5007	2211353,	2SA949-O,	C5001,C5101	393884707	47 μ F,50V,Elect.
Q5105-Q5107	2211354,	2SA949-Y,	C5004,C5104	354742219	220 μ F,16V,Elect.
Q5205-Q5207	2215843 or	NP KTA1024-O or	C5005,C5105	354722219	220 μ F,6.3V,Elect.
	2215844	NP KTA1024-Y	C5010,C5110	354781009	10 μ F,50V,Elect.
Q5008,Q5108	2211633,	2SC2229-O,	C5017,C5018	354794709	47 μ F,100V,Elect.
Q5208,Q5211	2211634,	2SC2229-Y,	C5117,C5118	354794709	47 μ F,100V,Elect.
	2215853 or	NP KTC3206-O or	C5201,C5301	354784709	47 μ F,50V,Elect.
	2215854	NP KTC3206-Y	C5204,C5304	354742219	220 μ F,16V,Elect.
Q5209,Q5218	2213284	2SC1740S-R	C5205,C5305	354722219	220 μ F,6.3V,Elect.
Q5212,Q5312	2211353,	2SA949-O,	C5210-C5212	354781009	10 μ F,50V,Elect.
	2211354 or	2SA949-Y or	C5213,C5313	374721034	0.01 μ F \pm 5%,50V,Plastic
	2215843	NP KTA1024-O	C5214,C5314	374724734	0.047 μ F \pm 5%,50V,Plastic
Q5213,Q5313	2203010 or	* 2SC5171 or	C5215-C5218	354794709	47 μ F,100V,Elect.
	2203434	NP KTD2061-Y	C5310-C5312	354781009	10 μ F,50V,Elect.
Q5214,Q5314	2203000 or	* 2SA1930 or	C5315-C5318	354794709	47 μ F,100V,Elect.
	2203424	NP KTB1369-Y	C5401	393884707	47 μ F,50V,Elect.
Q5215,Q5315	2202822 or	* 2SC5200-R or	C5404	354742219	220 μ F,16V,Elect.
	2202823	* 2SC5200-O	C5405,C5645	354722219	220 μ F,6.3V,Elect.
Q5216,Q5316	2202812 or	* 2SA1943-R or	C5410	354781009	10 μ F,50V,Elect.
	2202813	* 2SA1943-O	C5417,C5418	354794709	47 μ F,100V,Elect.
Q5217,Q5317	2214984 or	2SC2631-R or	C5601-C5603	354761019	100 μ F,35V,Elect.
	2214985	2SC2631-S	C5646	354741009	10 μ F,16V,Elect.
Q5219,Q5319	2212863 or	2SC3419-O or	C5650	354780109	1 μ F,50V,Elect.
	2212864	2SC3419-Y		Resistors	
Q5305-Q5307	2211353,	2SA949-O,	R5014,R5015	443521014	100 Ω \pm 5%,1/2W,Metal oxide
Q5405-Q5407	2211354,	2SA949-Y,	R5017,R5117	443526804	68 Ω \pm 5%,1/2W,Metal oxide
	2215843 or	NP KTA1024-O or	R5018,R5019	443521014	100 Ω \pm 5%,1/2W,Metal oxide
	2215844	NP KTA1024-Y	R5114,R5115	443521014	100 Ω \pm 5%,1/2W,Metal oxide
Q5308,Q5311	2211633,	2SC2229-O,	R5118,R5119	443521014	100 Ω \pm 5%,1/2W,Metal oxide
Q5408	2211634 or	2SC2229-Y or	R5214,R5215	443521014	100 Ω \pm 5%,1/2W,Metal oxide
	2215853	NP KTC3206-O	R5217,R5317	443526804	68 Ω \pm 5%,1/2W,Metal oxide
Q5309,Q5318	2213284	2SC1740S-R	R5218,R5219	443521014	100 Ω \pm 5%,1/2W,Metal oxide
Q5401,Q5402	2210755, *	2SC1775A-E,	R5222,R5322	5210290	N06HR4.7KBE,Trimming
	2210756, *	2SC1775A-F,	R5226,R5326	443524714	470 Ω \pm 5%,1/2W,Metal oxide
	2211732 or *	2SC1845-F or	R5229,R5329	443521514	150 Ω \pm 5%,1/2W,Metal oxide <D>
	2211733 *	2SC1845-E		443522214	220 Ω \pm 5%,1/2W,Metal oxide
Q5601	2212445	2SK365-GR			<P/T/W>
Q5602-Q5604	2212115,	2SC2458-GR,	R5230,R5231	453530224	2.2 Ω \pm 5%,1/2W,Metal
	2213284 or	2SC1740S-R or	R5232,R5332	4000132 or	0.22 Ω *2,5.5W or
	2215864	NP KTC3199-GR		4500245	0.22 Ω *2,5.5W,Metal plate
Q5605,Q5606	221282,	DTC144ES,	R5240,R5340	453630824	8.2 Ω \pm 5%,1W,Metal
	2213560 or	RNI204 or	R5241,R5242	453530224	2.2 Ω \pm 5%,1/2W,Metal
	2215820	NP KRC104M	R5314,R5315	443521014	100 Ω \pm 5%,1/2W,Metal oxide
Q5607	2202115 or	2SD2061-E or	R5318,R5319	443521014	100 Ω \pm 5%,1/2W,Metal oxide
	2202116	2SD2061-F	R5330,R5331	453530224	2.2 Ω \pm 5%,1/2W,Metal
Q5641,Q5642	2212115,	2SC2458-GR,	R5341,R5342	453530224	2.2 Ω \pm 5%,1/2W,Metal
	2213284 or	2SC1740S-R or	R5414,R5415	443521014	100 Ω \pm 5%,1/2W,Metal oxide
	2215864	NP KTC3199-GR	R5417	443526804	68 Ω \pm 5%,1/2W,Metal oxide
Q5643	2213640,	DTC123JS,	R5418,R5419	443521014	100 Ω \pm 5%,1/2W,Metal oxide
	2214660 or	RNI205 or	R5643,R5644	453530224	2.2 Ω \pm 5%,1/2W,Metal
	2215830	NP KRC105M			
Q5646	2211792 or	2SA992-F or			
	2211793	2SA992-E			

CAUTION: Replacement of the transistor of mark #, if necessary, must be made from the same beta group (HFE) as the original type.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Relays	
RL5643, RL5644	25065517, 25065563 or 25065586	NRL-2P5A-DC24-098, NRL-2P5A-DC24-129 or NRL-2P5A-DC24-142
	Plugs	
JL5623B	25055628	NPLG-7P590
P5201, P5301	25055038	NPLG-2P29
P5638	25055099	NPLG-2P83
P5641, P5642	25055038	NPLG-2P29
	Sockets	
JL5622B	25050271	NSCT-7P99
JL5624B	25050267	NSCT-3P95
JL5625A	25051088	NSCT-4P875
P3011A	200B3381830UL	NSAS-18P0729
P5002B, P5402B	25051426	NSCT-4P1213
P5102B	25051427	NSCT-5P1214
P5633B	25051428	NSCT-6P1215
P5634A	2009990350UL	NSAS-8P0727
	Clamp	
P5611	260224	CP-1S

FRONT/CENTER POWER AMPLIFIER PC BOARD (NAAF-6601-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q5009, Q5018	2213284	2SC1740S-R
Q5011, Q5111	2211633, *	2SC2229-O,
Q5411	2211634 or *	2SC2229-Y or
	2215853	NP KTC3206-O
Q5012, Q5112	2211353, *	2SA949-O,
Q5412	2211354 or *	2SA949-Y or
	2215843	NP KTA1024-O
Q5013, Q5113	2203010 or *	2SC5171 or
Q5413	2203434	NP KTD2061-Y
Q5014, Q5114	2203000 or *	2SA1930 or
Q5414	2203424	NP KTB1369-Y
Q5017, Q5117	2214984 or	2SC2631-R or
Q5417	2214985	2SC2631-S
Q5019, Q5119	2212863 or *	2SC3419-O or
Q5419	2212864	* 2SC3419-Y
Q5109, Q5118	2213284	2SC1740S-R
Q5409, Q5418	2213284	2SC1740S-R
Q5015, Q5115	2202822 or *	2SC5200-R or
Q5415	2202823	* 2SC5200-O
Q5016, Q5116	2202812 or *	2SA1943-R or
Q5416	2202813	* 2SA1943-O
	Diodes	
D5621	22380044	RBV-1506
D5641, D5642	223163 or	1SS133 or
D5645, D5646	223205	1SS270A

	Coils	
L5001, L5101	231176S	S-1.3C <P/T/W>
L5401	231176S	S-1.3C <P/T/W>

	Capacitors	
C5011, C5012	354781009	10 μ F, 50V, Elect.
C5013, C5113	374721034	0.01 μ F \pm 5%, 50V, Plastic
C5014, C5114	374724734	0.047 μ F \pm 5%, 50V, Plastic
C5023, C5123	354781009	10 μ F, 50V, Elect.
C5111, C5112	354781009	10 μ F, 50V, Elect.
C5411, C5412	354781009	10 μ F, 50V, Elect.
C5413	374721034	0.01 μ F \pm 5%, 50V, Plastic
C5414	374724734	0.047 μ F \pm 5%, 50V, Plastic
C5423	354781009	10 μ F, 50V, Elect.
C5623, C5624	3504352	18000 μ F, 71 V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R5022, R5122	5210261	N06HR5KBC, Trimming
R5026, R5126	443524714	470 Ω \pm 5%, 1/2W, Metal oxide
R5029, R5129	443521514	150 Ω \pm 5%, 1/2W, Metal oxide <D>
	443522214	220 Ω \pm 5%, 1/2W, Metal oxide
		<P/T/W>
R5030, R5031	453530224	2.2 Ω \pm 5%, 1/2W, Metal
R5032, R5132	4000132 or	0.22 Ω *2.5.5W or
R5432	4500245	0.22 Ω *2.5.5W, Metal plate
R5040	453630824	8.2 Ω \pm 5%, 1W, Metal
R5130, R5131	453530224	2.2 Ω \pm 5%, 1/2W, Metal
R5140, R5440	453630824	8.2 Ω \pm 5%, 1W, Metal
R5422	5210261	N06HR5KBC, Trimming
R5426	443524714	470 Ω \pm 5%, 1/2W, Metal oxide
R5429	443521514	150 Ω \pm 5%, 1/2W, Metal oxide <D>
	443522214	220 Ω \pm 5%, 1/2W, Metal oxide
		<P/T/W>
R5430, R5431	453530224	2.2 Ω \pm 5%, 1/2W, Metal
	Relays	
RL5641	25065563, 25065517 or 25065586	NRL-2P5A-DC24-129, NRL-2P5A-DC24-098 or NRL-2P5A-DC24-142
RL5642	25065574	NRL-1P5A-DC24-134

	Plugs	
P5001, P5101	25055038	NPLG-2P29
P5002A, P5402A	25055783	NPLG-4P739
P5102A	25055784	NPLG-5P740
P5401	25055038	NPLG-2P29
P5633A	25055785	NPLG-6P741
	Sockets	
JL5621A	25051110	NSCT-6P897
JL5622A	25051111	NSCT-7P898
JL5624A	25051107	NSCT-3P894
P5631A	2009990549UL	NSAS-12P0726
P5635A	2009990551UL	NSAS-4P0728

THERMAL DETECTOR PC BOARD (NAETC-6602-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
R5613	4000150	PTH9M04BC222TS2F333, Thermistor
R5614	4000153	PTH9M04BF222TS2F333, Thermistor
JL5625B	25051088	NSCT-4P875, Socket

SECONDARY CIRCUIT PC BOARD (NAETC-6606-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
C941, C942	374731044	0.1 μ F \pm 5%, 100V, Plastic capacitor
R941, R942	453530104	1 Ω \pm 5%, 1/2W, Metal resistor
JL5621B	25051110	NSCT-6P897, Socket
JL942B	25050286	NSCT-9P114, Socket
P5612	260224	CP-1S, Clamp

DSP CIRCUIT PC BOARD (NADG-6608-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q1001	222740046R2TO	TC74HC04F
Q1002	22241416	LC7824
Q101, Q102	22241383R2	NJM4565M-D
Q103	22241361R2	AK5383VS
Q104	22274157ER2TO	TC74VHC157FT
Q114	22241338R2	AK4110VF
Q115	222740046R2TO	TC74HC04F
Q116	22274074ER2TO	TC74VHC74FT
Q701	22241358R9	CS492505-CL
Q707	22241340R9	CS492604-CL
Q708, Q709	22274574ER2TO	TC74VHC574FT
Q710	22241362R2	LC372100PF10-K35-TLM
Q711	22274157ER2TO	TC74VHC157FT

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CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q713	22274244ER2TO	TC74VHC244FT
Q714	22274153ER2TO	TC74VHC153FT
Q715	22241219R3	DSPF56009FJ88
Q716	22241366R9	TC58128BJ-12
Q717,Q718	22274153ER2TO	TC74VHC153FT
Q801-Q804	22241360R2	AK4393VF
Q813-Q816	22241409R2	BA15532F
	Photo couplers	
U1001	24120031	TOTX178A
U1003,U1004	24120037	TORX178A
	Crystal	
X101	3010320	AT-49 12.288MHz
	Diodes	
D1002,D1003	224490330R2	UDZ3.3B
D101-D112	223234R2 or	1SS352 or
D701,D702	223233R1	1SS355
	Coils	
L1001	231237K470R2	NCH-1479
L1002,L1003	231237M022R2	NCH-1471
L101	231237M022R2	NCH-1471
L103	230921R2	BLM21B222SPT
L108-L110	231237M022R2	NCH-1471
L701,L702	231237M022R2	NCH-1471 <P/T/W>
L703-L706	231237M022R2	NCH-1471
L707	231237M022R2	NCH-1471 <P/T/W>
L801,L802	231237M022R2	NCH-1471
R117,R118	230948R2	BLM21A102F
R122,R125	230921R2	BLM21B222SPT
R127,R131	230921R2	BLM21B222SPT
R797,R798	230948R2	BLM21A102F
	Capacitors	
C1005	356724709R2	47 μ F, 6.3V, Elect.
C101,C102	356724709R2	47 μ F, 6.3V, Elect.
C107-C110	356741009R2	10 μ F, 16V, Elect.
C118	356724709R1	47 μ F, 6.3V, Elect.
C120,C148	356724709R2	47 μ F, 6.3V, Elect.
C158	356724709R2	47 μ F, 6.3V, Elect.
C719	356721019R2	100 μ F, 6.3V, Elect.
C734,C735	356724709R1	47 μ F, 6.3V, Elect. <P/T/W>
C737,C738	356724709R2	47 μ F, 6.3V, Elect.
C742	356724709R2	47 μ F, 6.3V, Elect.
C801-C804	356724709R2	47 μ F, 6.3V, Elect.
C814,C816	356724709R2	47 μ F, 6.3V, Elect.
C818,C820	356724709R2	47 μ F, 6.3V, Elect.
C821,C823	356724709R2	47 μ F, 6.3V, Elect.
C825,C827	356724709R2	47 μ F, 6.3V, Elect.
C831,C832	356741009R2	10 μ F, 16V, Elect.
C841-C846	356741009R2	10 μ F, 16V, Elect.
	Terminals	
P1001,P1002	25045473	NPJ-1PDBL291
	Sockets	
P701	25051442	NSCT-20P1229
P702,P801	25051438	NSCT-16P1225
P803	25051430	NSCT-8P1217

PRIMARY CIRCUIT PC BOARD (NAPS-6610-1A/1B/1C/1E)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q921	2213640 or 2215830	DTC123JS or NP KRC105M
	Diodes	
D921-D924	22380035, 22380032 or 22380260	GP104003E, 1SR139-100 or RL1N4003

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D925	223163 or 223205	1SS133 or 1SS270A
	Power transformer	
T902	2300670A Δ 2300671A Δ 2300672A Δ	NPT-1111D <D> NPT-1111P <P/T> NPT-1111DG <W>
	Capacitors	
C901	35001968	RE275V-103M
C922	354742219	220 μ F, 16V, Elect.
	Resistors	
R901	431533355 Δ	RC1/2GFKUL-3.3M, Solid <D>
R921	453530824	8.2 Ω \pm 5%, 1/2W, Metal
	Relay	
RL901	25065584, Δ 25065248, Δ 25065516 or Δ 25065588 Δ 25065561, Δ 25065508, Δ 25065515 or Δ 25065526 Δ	NRL-1P10A-DC12-140, NRL-1P15A-DC12-29, NRL-1P10A-DC12-097 or NRL-1P10A-DC12-143 <D/W> NRL-1P15A-DC12-127, NRL-1P10A-DC12-093, NRL-1P15A-DC12-096 or NRL-1P15A-DC12-102 <P/T>
	Switch	
S901	25065437 Δ	NSS-22157P <W>
	Fuse holders	
F911,F912	250113 Δ	SN5051 <D/W>
F915,F916	25052133 Δ	NSCT-1P2031 <P/W/T>
F917,F918	25052133 Δ	NSCT-1P2031 <P/T>
	Plug	
P901a	25055675 Δ	NPLG-2P631
	Sockets	
IL9051b	25050267	NSCT-3P95
P902	25051126 Δ 25051125 Δ	NSCT-4P913 <D> NSCT-4P912 <P/T/W>
	Fuses	
F901	252196 Δ	12A-UL/T-314Fuse <D/W>
F902	252079 or Δ 252245 Δ	6.3A-SE-EAK or 6.3A-SE-TL250V Fuse <P/T/W>
F903	252241 or Δ 252075 Δ	2.5A-SE-TL250V or 2.5A-SE-EAK Fuse <P/T>

INPUT TERMINAL PC BOARD (NAAF-6611-1A/1B/1C/1E)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301	22240829	TC9274N-008
Q302	22240799	TC9163AN
Q311	22240191	NJM4565D-D
	Capacitors	
C341,C343	354744709	47 μ F, 16V, Elect.
C344,C346	354744709	47 μ F, 16V, Elect.
C349,C351	353744709	47 μ F, 16V, Elect.
C353,C354	393884707	47 μ F, 50V, Elect.
C357,C358	393884707	47 μ F, 50V, Elect.
	Sockets	
P301b	25051438	NSCT-16P1225
P302b	25051429	NSCT-7P1216
	Plug	
P303b	25055234	NPLG-3P218
	Terminals	
P304,P305	25045571 or 25045300	NPJ-6PDRW386 or NPJ-6PDBL159
P307	25045575 or 25045303	NPJ-4PDRW389 or NPJ-4PDBL162

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FRONT VIDEO TERMINAL PC BOARD (NAETC-6612-1A/1B/1C/1E)

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.
P212	25051961	NSCT-4P1748,Socket <D/P>	D8501,D8505	Diodes
	25051749	NSCT-4P1536,Socket <T/W>		223163 or
P213	25045405	NPJ-3PDBL230,Terminal <D/P>	D8502	223205
	25045402	NPJ-3PDBL227,Terminal <T/W>	D8504	225290
P204a	2009990434UL	NSAS-10P0578,Socket		224470823
P303a	2009990513UL	NSAS-6P0675,Socket		Capacitors

SURROUND/FRONT B SPEAKER TERMINAL PC BOARD (NAETC-6614-1A/1B/1C/1E)

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.
	Capacitors			
C5219,C5221	374721034	0.01 μ F \pm 5%,50V,Plastic <P/T/W>	R8542	49163103415
C5261,C5262	374724734	0.047 μ F \pm 5%,50V,Plastic		Resistor
C5319,C5321	374721034	0.01 μ F \pm 5%,50V,Plastic <P/T/W>	S8501-S8531	Switches
C5361,C5362	374724734	0.047 μ F \pm 5%,50V,Plastic	S8532	25035632
	Resistors			25065507
R5261,R5262	453630824	8.2 Ω \pm 5%,1W,Metal	JL8501A	Sockets
R5361,R5362	453630824	8.2 Ω \pm 5%,1W,Metal	JL8502A	25051109
	Terminal		P8501	25051107
P5636	25060292	NTM-8PDMN223		25052071,
	Plugs			25050965,
P5634b	25055167	NPLG-4P151		25051329,
P5635b	25055165	NPLG-2P149		25051869 or
				25052258

FRONT/CENTER SPEAKER TERMINAL PC BOARD (NAETC-6615-1A/1B/1C/1E)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C5019,C5119	374721034	0.01 μ F \pm 5%,50V,Plastic <P/T/W>
C5061,C5161	374724734	0.047 μ F \pm 5%,50V,Plastic
C5419	374721034	0.01 μ F \pm 5%,50V,Plastic <P/T/W>
C5461	374724734	0.047 μ F \pm 5%,50V,Plastic
	Resistors	
R5061,R5161	453630824	8.2 Ω \pm 5%,1W,Metal
R5461	453630824	8.2 Ω \pm 5%,1W,Metal
	Terminal	
P5632	25060291	NTM-6PDMN222
	Plug	
P5631b	25055169	NPLG-6P153

POWER SWITCH PC BOARD (NAETC-6619-1A/1B/1C/1E)

CIRCUIT NO.	PART NO.	DESCRIPTION
C906	3500196S	Δ RE275V-103M,Capacitor IS
S906	25035550	Δ NPS-111-L512P,Switch

DISPLAY CIRCUIT PC BOARD (NADIS-6621-1A/1B/1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q8501	212199	16-BT-66GK
	IC	
Q8503	22240685R9	M66004FP
	Remote sensor	
U8501	241330	PIC-26043TE2
	Transistors	
Q8502,Q8505	2212115,	2SC2458-GR,
	2213284 or	2SC1740S-R or
	2215864	NP KTC3199-GR
Q8504	2213510,	DTA114ES,
	2214350 or	RN2202 or
	2215770	NP KRA102M
Q8507	221282,	DTC144ES,
	2213560 or	RN1204 or
	2215820	NP KRC104M

S-VIDEO TERMINAL PC BOARD (NAVD-6622-1A/1B/1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q215-Q218	22241347	NJM2296D
Q219	22240800	TC9164AN
	Transistors	
Q201-Q208	2213631 or	RN1241-A or
Q211-Q214	2213632	RN1241-B
	Capacitors	
C232,C233	354744719	470 μ F,16V,Elect.
	Plug	
P202B	25055236	NPLG-5P220
	Sockets	
JL201A	25051093	NSCT-9P880
JL202A	25051094	NSCT-10P881
P201B	25051428	NSCT-6P1215
P205,P206	25051568	NSCT-12P1355
P207	25051750	NSCT-4P1537

ON-SCREEN PC BOARD (NAVD-6623-1A/1B/1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q220	22241037	LC74761-9189
Q223,Q224	22241347	NJM2296D
	Transistors	
Q221	2212115,	2SC2458-GR,
	2213284 or	2SC1740S-R or
	2215864	NP KTC3199-GR
Q222	2212125,	2SA1048-GR
	2213354 or	2SA933S-R
	2215975	NP KTA1266-GR
Q225-Q230	2213631 or	RN1241-A or
	2213632	RN1241-B
	Diodes	
D213-D215	223163 or	1SS133 or
	223205	1SS270A
	Crystals	
X201	3010167	XTL-14.32M
X202	3010238	XTL-17.73M <P/T/W>

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CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils			Diodes	
L201	233454J056	NCH-1452 056J	D8003,D8007	224490560R2	UDZ5.6B,Zener
L202	233454K220	NCH-1452 220K	D8101,D8102	223234R2 or	1SS352 or
	Capacitors			223233R1	1SS355
C208,C219	354721019	100 μ F,6.3V,Elect.	D9051	22380022F	RBV402
C210,C221	375524744	0.47 μ F \pm 5%,50V,Plastic	D9058	224493300R2	UDZ33B,Zener
C211	354784799	0.47 μ F,50V,Elect.		Coils	
C214	374722234	0.022 μ F \pm 5%,50V,Plastic	L2001	231237K220R2	NCH-1477 <P>
C215,C225	354780109	1 μ F,50V,Elect.	L8001	231237K220R2	NCH-1477
C216	374726824	6800pF \pm 5%,50V,Plastic	R8034,R8036	230948R2	BLM21A102F
C217	374721224	1200pF \pm 5%,50V,Plastic		Oscillators	
C218	354783399	0.33 μ F,50V,Elect.	X2001	3010203	AF6146CG,Crystal <P>
C223,C226	354721019	100 μ F,6.3V,Elect.	X8001	3010322	CST16.00MXW0C1,Ceramic
C224	354724719	470 μ F,6.3V,Elect.		Capacitors	
C227	354744709	47 μ F,16V,Elect.	C2001	354784799	0.47 μ F,50V,Elect.
C230,C231	354744719	470 μ F,16V,Elect.	C2002	354780339	3.3 μ F,50V,Elect.
	Terminals		C2006,C2008	354721019	100 μ F,6.3V,Elect. <P>
P209	25045339	NPJ-4PDYE190	C2007	374725614	560pF \pm 5%,50V,Plastic <P>
P210	25045299	NPJ-3PDYE158	C2012,C2013	374721824	1800pF \pm 5%,50V,Plastic <W>
	Switch		C6071,C6171	354741009	10 μ F,16V,Elect.
S201	25065581	NSS-22203	C6072,C6172	354721019	100 μ F,6.3V,Elect.
	Sockets		C6073-C6075	354741009	10 μ F,16V,Elect.
JL201B	25051093	NSCT-9P880	C6173,C6175	354741009	10 μ F,16V,Elect.
JL202B	25051094	NSCT-10P881	C8001,C8002	354721019	100 μ F,6.3V,Elect.
P203B	25051431	NSCT-9P1218	C8003	354780109	1 μ F,50V,Elect.
			C8007	3000078	DX-5R5L104,Super
HEADPHONE TERMINAL PC BOARD (NAETC-6624-1A/1B/1C)			C8008	375524744	0.47 μ F \pm 5%,50V,Plastic
CIRCUIT NO.	PART NO.	DESCRIPTION	C8011	354780339	3.3 μ F,50V,Elect.
JL8501B	25051109	NSCT-5P896,Socket	C8013	354741009	10 μ F,16V,Elect.
P8502	25045514	YKB26-5005,Headphone <D/P>	C9053	354744729	4700 μ F,16V,Elect.
	25045385	YKB26-5153,Headphone <T/W>	C9054	354741029	1000 μ F,16V,Elect.
			C9056	354724719	470 μ F,6.3V,Elect.
MAIN VOLUME PC BOARD (NAETC-6625-1A/1B/1C)			C9058,C9060	354741009	10 μ F,16V,Elect.
CIRCUIT NO.	PART NO.	DESCRIPTION	C9062,C9064	354741009	10 μ F,16V,Elect.
JL8502B	25051107	NSCT-3P894,Socket	C9063	354780229	2.2 μ F,50V,Elect.
S8533	25065575	EC16B2425,Rotary encoder	C9065	354762229	2200 μ F,35V,Elect.
			C9066	354761029	1000 μ F,35V,Elect.
MAIN CIRCUIT PC BOARD (NAAR-6627-1A/1B/1C/1D)			C9068,C9070	354741009	10 μ F,16V,Elect.
CIRCUIT NO.	PART NO.	DESCRIPTION	C9069	354780229	2.2 μ F,50V,Elect.
	ICs		C9071	354781019	100 μ F,50V,Elect.
Q2005	22241297R2	BU1923F <P>	C9072	354771019	100 μ F,63V,Elect.
Q6075	22240191	NJM4565D-D	C9076	354742229	2200 μ F,16V,Elect.
Q8003	22241420	M30624MG-238FP	C9078,C9080	354741009	10 μ F,16V,Elect.
Q9051	22278033DNEC	MPC2933HF		Resistors	
Q9052-Q9054	222780055	78M05HF	R6078,R6178	453530224	2.2 Ω \pm 5%,1/2W,Metal
Q9055	222790055	79M05FA	R9051,R9052	452638294	0.82 Ω \pm 5%,1W,Metal
Q9056,Q9057	222780125	78M12HF	R9053	452630154	1.5 Ω \pm 5%,1W,Metal <D>
Q9059	222780565JRC	NJM78M56FA	R9054	452630154	1.5 Ω \pm 5%,1W,Metal
Q9060	222780055	78M05HF	R9055	452630334	3.3 Ω \pm 5%,1W,Metal
	Transistors		R9056	452530334	3.3 Ω \pm 5%,1/2W,Metal
Q2001,Q2002	2215410R2	RN1441	R9057	452530104	1 Ω \pm 5%,1/2W,Metal
Q2003	2214530R2	RN2402	R9058,R9059	452630474	4.7 Ω \pm 5%,1W,Metal
Q2004	2213143R2	2SC2712-O <P>	R9060,R9066	452530474	4.7 Ω \pm 5%,1/2W,Metal
Q6071,Q6072	2215410R2	RN1441	R9061,R9062	452530824	8.2 Ω \pm 5%,1/2W,Metal
Q6073	2214530R2	RN2402	R9067,R9068	442621014	100 Ω \pm 5%,1W,Metal oxide
Q6074,Q8001	2214490R2	RN1404	R9069	442521204	12 Ω \pm 5%,1/2W,Metal oxide
Q6171,Q6172	2215410R2	RN1441	R9070	452630684	6.8 Ω \pm 5%,1W,Metal
Q8002,Q8102	2214530R2	RN2402		Fuse Labels	
Q8101,Q8103	2214490R2	RN1404	F941A,F942A	29361747	T2.5AL250V <P/T/W>
Q9058	2211455	2SA1015-GR		Fuse holders	
	Diodes		F943-F946	25052133	NSCT-1P2031
D8001	22380260,	RL1N4003,		Sockets	
D9052-D9057	22380032 or	1SR139-100 or	JL5623A	25051091	NSCT-7P878
D9059-D9061	22380035	GP104003E	JL9051A	25051107	NSCT-3P894
D8002	223234R2 or	1SS352 or	JL942A	25051113	NSCT-9P900
D804-D806	223233R1	1SS355			

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CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
	Plugs			Capacitors	
P201A	25055785	NPLG-6P741	C3053,C3054	354784709	47 μ F, 50V, Elect.
P203A	25055788	NPLG-9P744	C3063,C3064	354784709	47 μ F, 50V, Elect.
P3012A,P3013A	25055799	NPLG-20P755	C3067,C3077	374726224	6200pF \pm 5%, 50V, Plastic
P301A,P702A	25055795	NPLG-16P751	C3068,C3078	374721824	1800pF \pm 5%, 50V, Plastic
P302A	25055786	NPLG-7P742	C3069,C3070	354741009	10 μ F, 16V, Elect.
P701A	25055799	NPLG-20P755	C3073,C3074	354784709	47 μ F, 50V, Elect.
P8002A	25052024,	NSCT-15P1811,	C3079,C3080	354741009	10 μ F, 16V, Elect.
	25050955,	NSCT-15P742,	C3093,C3094	354741009	10 μ F, 16V, Elect.
	25051281,	NSCT-15P1070,	C3097,C3098	354721019	100 μ F, 6.3V, Elect.
	25051822 or	NSCT-15P1609 or	C3251,C3351	374722224	2200pF \pm 5%, 50V, Plastic <P/T/W>
	25052211	NSCT-15P2108	C4005,C4105	374721244	0.12 μ F \pm 5%, 50V, Plastic
P8003A	25055789	NPLG-10P745	C4006,C4106	374724734	0.047 μ F \pm 5%, 50V, Plastic
P801A	25055795	NPLG-16P751	C4602,C4604	354741009	10 μ F, 16V, Elect.
P803A	25055787	NPLG-8P743	C6051,C6151	374721015	100pF \pm 10%, 50V, Plastic
	Terminals		C6604	354781009	10 μ F, 50V, Elect.
P8203	25045504	NPI-1PDBL319,RI	C7001,C7002	393884707	47 μ F, 50V, Elect.
P8501A	25052034,	NSCT-25P1821,	C7003,C7004	354744709	47 μ F, 16V, Elect.
	25050965,	NSCT-25P752,	C7011,C7111	354741009	10 μ F, 16V, Elect.
	25051291,	NSCT-25P1080,	C7013,C7113	354780229	2.2 μ F, 50V, Elect.
	25051832 or	NSCT-25P1619 or	C7015,C7024	393884707	47 μ F, 50V, Elect.
	25052221	NSCT-25P2118	C7033,C7034	374721534	0.015 μ F \pm 5%, 50V, Plastic
	Fuses		C7035,C7036	374724724	4700pF \pm 5%, 50V, Plastic
F941,F942	252160 Δ	2.5A-UL/T-237,Fuse <D>	C7039,C7040	374721234	0.012 μ F \pm 5%, 50V, Plastic
	252241 or Δ	2.5A-SE-TL250V or	C7041,C7042	374728234	0.082 μ F \pm 5%, 50V, Plastic
	252075 Δ	2.5A-SE-EAK, Fuse <P/T/W>	C7045,C7046	354744709	47 μ F, 16V, Elect.
	Screws		C7051,C7151	374725614	560pF \pm 5%, 50V, Plastic <P/T/W>
Q9051B,Q9052B	82143010	3P+10FN(BC),Pan head	C7115,C7124	393884707	47 μ F, 50V, Elect.
Q9054B,Q9055B	82143010	3P+10FN(BC),Pan head	C7201,C7203	354744709	47 μ F, 16V, Elect.
	Switch		C7202,C7205	354784709	47 μ F, 50V, Elect.
S2001	25065414	NSS-22155 <W>	C7204,C7206	354741009	10 μ F, 16V, Elect.
	Heatshinks		C7211,C7311	354741009	10 μ F, 16V, Elect.
Q9054A,Q9055A	27160391		C7213,C7313	354744709	47 μ F, 16V, Elect.
Q9051A,Q9052A	27160209	RAD-67	C7401,C7402	354744709	47 μ F, 16V, Elect.
			C7403,C7404	354784709	47 μ F, 50V, Elect.
			C7411,C7511	354741009	10 μ F, 16V, Elect.
			C7413,C7513	354780229	2.2 μ F, 50V, Elect.
			C7415,C7515	354744709	47 μ F, 16V, Elect.
			C7422,C7522	393884707	47 μ F, 50V, Elect.
			C7431	374721534	0.015 μ F \pm 5%, 50V, Plastic
			C7432	374724724	4700pF \pm 5%, 50V, Plastic
			C7434,C7534	374721234	0.012 μ F \pm 5%, 50V, Plastic
			C7435	374728234	0.082 μ F \pm 5%, 50V, Plastic
			C7451,C7551	374722224	2200pF \pm 5%, 50V, Plastic <P/T/W>
			C7524	374722734	0.027 μ F \pm 5%, 50V, Plastic
			C7534	374721234	0.012 μ F \pm 5%, 50V, Plastic
			C7535	374728234	0.082 μ F \pm 5%, 50V, Plastic
			Terminals		
			P3051	25045572	NPI-6PDBRW387
			P3052	25045300	NPI-6PDBL159
			P7051	25045572	NPI-6PDBRW387
			Plug		
			P3011B	25055139	NPLG-9P123
			Sockets		
			P3012B,P3013B	25051442	NSCT-20P1229
PREAMPLIFIER PC BOARD (NAAF-6628-1A/1B/1C/1D)			NOTE: <D>: 120V model only <P>: 230V model only <T>: Asian model only <W>: Worldwide model only		
CIRCUIT NO.	PART NO.	DESCRIPTION			
	ICs				
Q3051,Q3061	22241383R2	NJM4565M-D			
Q3071,Q3091	22241383R2	NJM4565M-D			
Q4001,Q4101	22241383R2	NJM4565M-D			
Q4201,Q4301	22241383R2	NJM4565M-D			
Q4601	22240786	TC9274N-006			
Q4602	22241221R2	TC9164AF			
Q7001,Q7201	22241220R2	TC9459F			
Q7011,Q7021	22241383R2	NJM4565M-D			
Q7031,Q7431	22241253	TC9184AP			
Q7041	22240025	LC4966			
Q7211	22241383R2	NJM4565M-D			
Q7401	22241220R2	TC9459F			
Q7411,Q7421	22241383R2	NJM4565M-D			
	Transistors				
Q6001,Q6002	2215410R2	RN1441			
Q6101,Q6102	2215410R2	RN1441			
Q6201-Q6203	2215410R2	RN1441			
Q6301-Q6303	2215410R2	RN1441			
Q6401-Q6403	2215410R2	RN1441			
Q6501,Q6502	2215410R2	RN1441			
Q6601	2214470R2	RN1402			
Q6602	2214550R2	RN2404			
Q6605	2214470R2	RN1402			
	Diodes				
D7201,D7202	224490910R2	UDZ9.1B,Zener			

ADJUSTMENT AND CONFIRMATION

1. Idling current adjustment

Before Idling adjustment, turn the trimming resistors R5022, R5122, R5222, R5322 and R5422 to counter clockwise.

Connect the DC voltmeter to sockets P5001, P5101, P5201, P5301 and P5401.

After turn POWER to ON, adjust the trimming resistors R5022, R5122, R5222, R5322 and R5422 so that the reading of voltmeter becomes 1.0 mV.

After adjustment, attach the top cover.

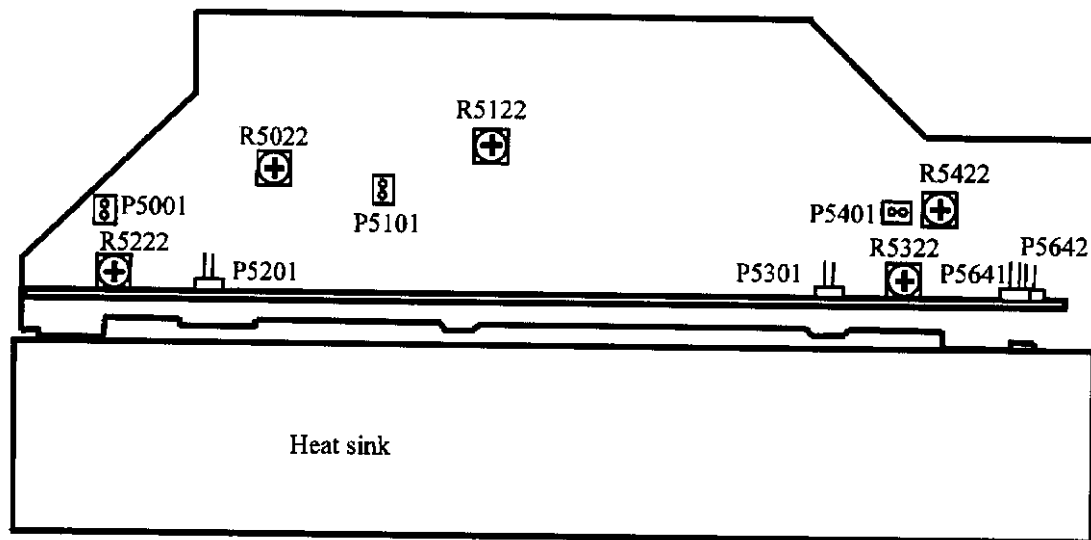
Confirm the voltage of above points after five minutes.

When less than 6 mV, readjust the above resistors so that the voltage becomes 6.0 mV.

When 6 mV to 7.5 mV, you are not necessary to adjust.

When more than 7.5 mV, readjust the above resistors so that the voltage becomes 7.5 mV.

Note: No load and No signal



Confirmation of protection circuit

1. Confirmation of speaker relay

Confirm that the speaker relay turns ON approximate 5 seconds after the power switch is turned ON.

Confirm that the speaker relay turns OFF immediately after the power switch is turned OFF.

2. Confirmation of DC detection circuit

Press and hold down CD button, then press SPEAKERS-A and SPEAKERS-B buttons at the same time.

During "TEST-1-00" on the FL tube light on and off, press PRESET/MODE ADJ button.

Apply DC 1.5~3V to MULTI CHANNEL INPUT terminals with no load.

Confirm that the speaker relay turns OFF.

Apply DC -1.5~-3V to MULTI CHANNEL INPUT terminals with no load.

Confirm that the speaker relay turns OFF.

3. Confirmation of Current detection circuit

Press and hold down CD button, then press SPEAKERS-A and SPEAKERS-B buttons at the same time.

During "TEST-1-00" on the FL tube light on and off, press PRESET/MODE ADJ button.

Connect Differentiator below and apply the 200Hz square signal to the terminal of MULTI CHANNEL INPUT.

Adjust the attenuator or Volume so that the output level becomes 35V p-p.

Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.

Confirm that the speaker relay turns OFF when a 1.5 ohm load is connected.

Confirmation of Fan

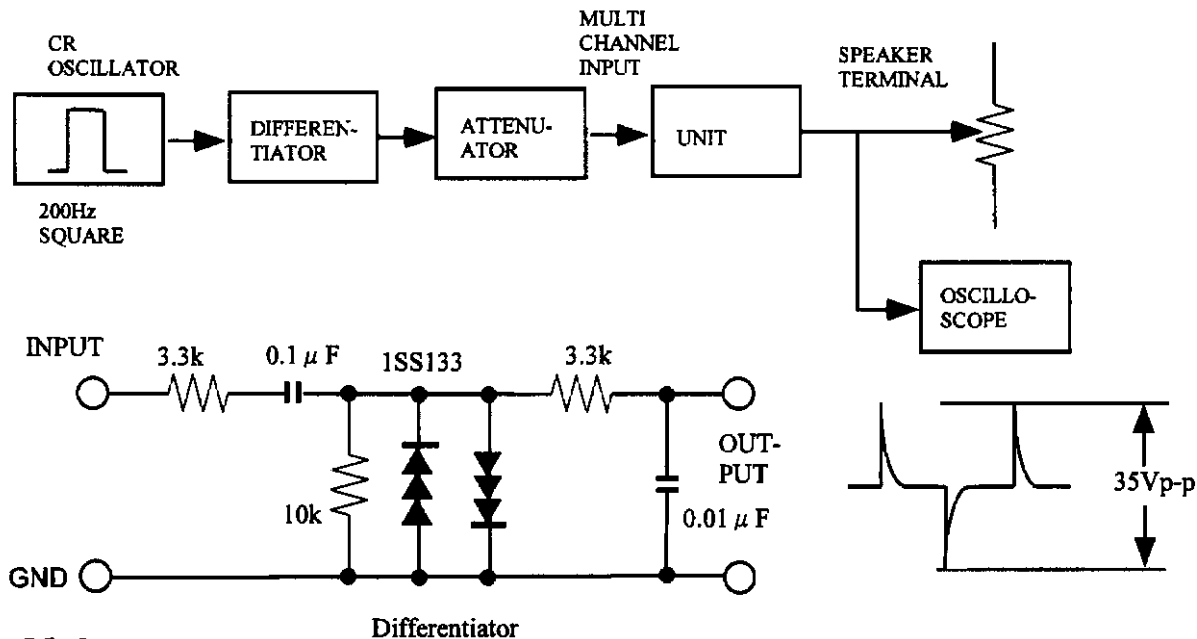
Set the unit to "TEST-1-00" and apply the signal 1kHz, -30dB (32 mV) to Multi channel inputs except Sub Woofer with no load. Confirm that the fan turns after few seconds.

Connect the 22 ohm resistor between terminal P5642 with no input.

Confirm that the fan turns after few seconds.

Confirmation of thermal detection circuit

Set the unit to "TEST-1-00" and connect the 22 ohm resistor between terminal P5641.
Confirm that "Thermal Protect" on the fluorescent tube light on.

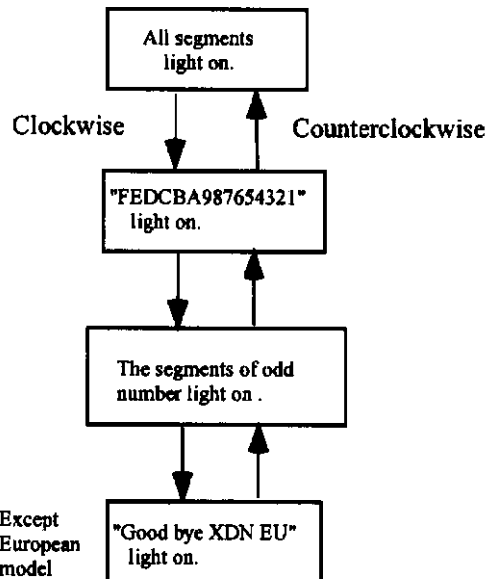
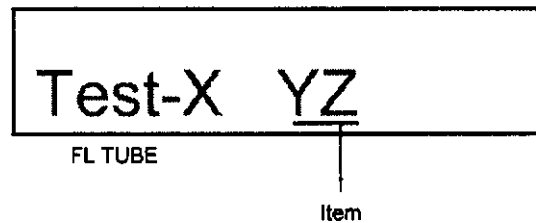


Test Mode

1. Turn POWER button on.
2. Press and hold down CD button, then press SPEAKERS-A and SPEAKERS-B buttons at the same time.
3. During "TEST-1-00" on the FL tube is displayed, press CD button to set the unit to the test mode of FL tube.

Test mode of FL tube

Turn PRESET/MODE ADJ button to change the test mode of FL tube.



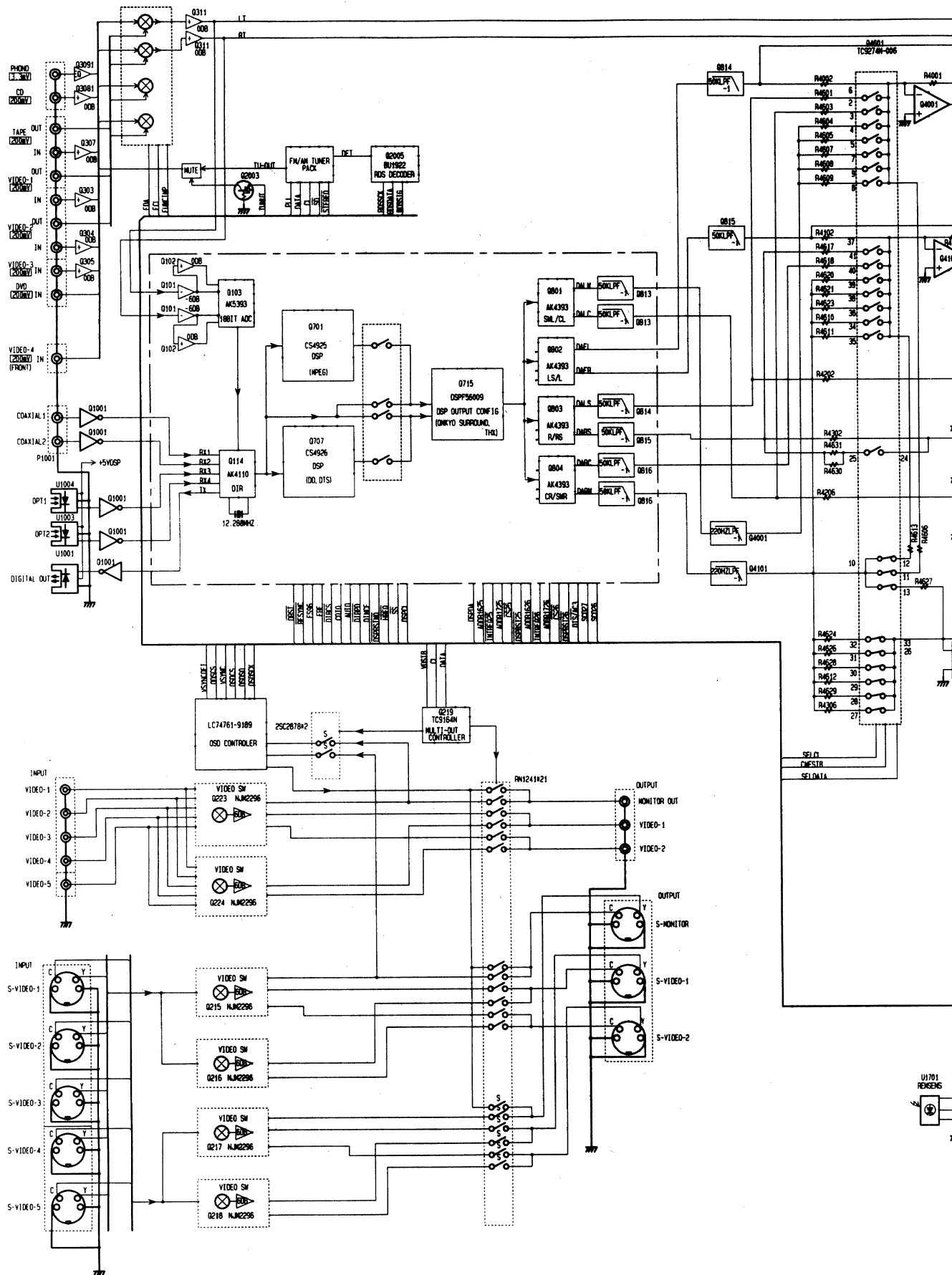
Press PRESET/MODE ADJ button to finish the test mode of FL tube.

XDN EU

1 2 3 4

1. THX: 1:THX 0:None
2. Digital output: 1:Yes 0:No
3. N: 1:NTSC/PAL: Auto PAL 0: NTSC
4. EU:Europe US: USA SA:Saudi JP:Japan

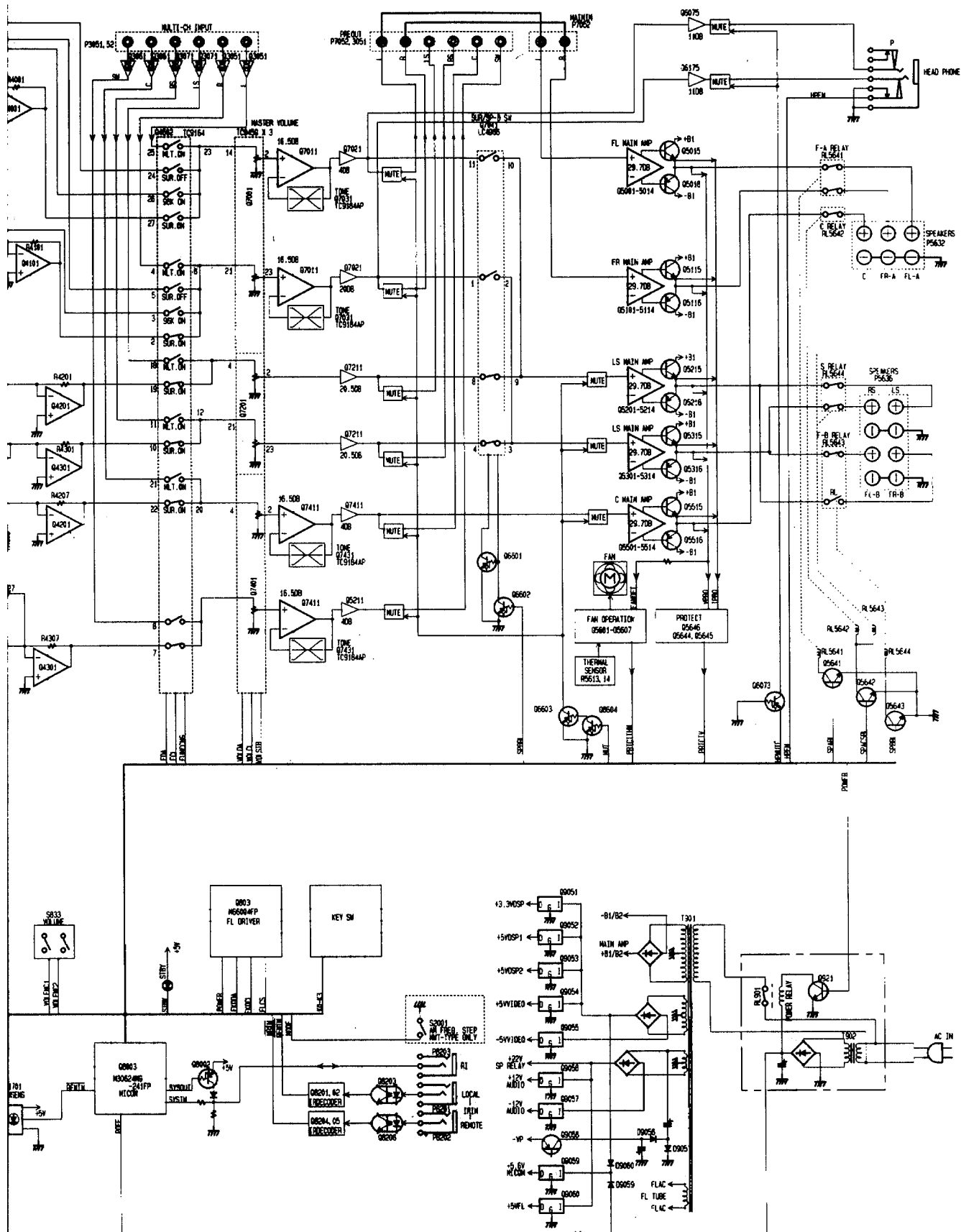
SCHEMATIC DIAGRAM 1



E

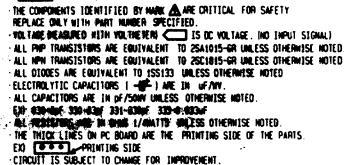
F

G



D





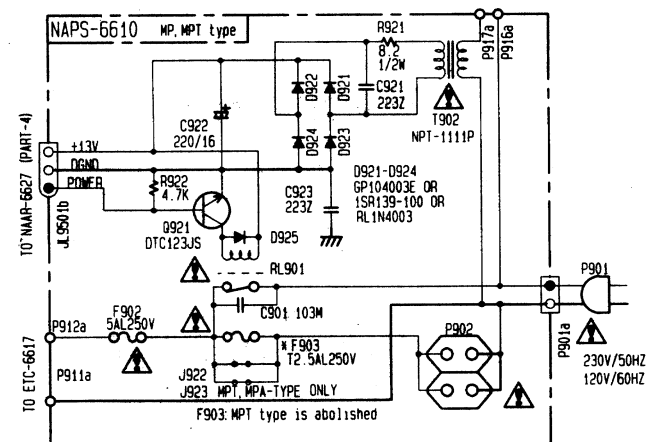
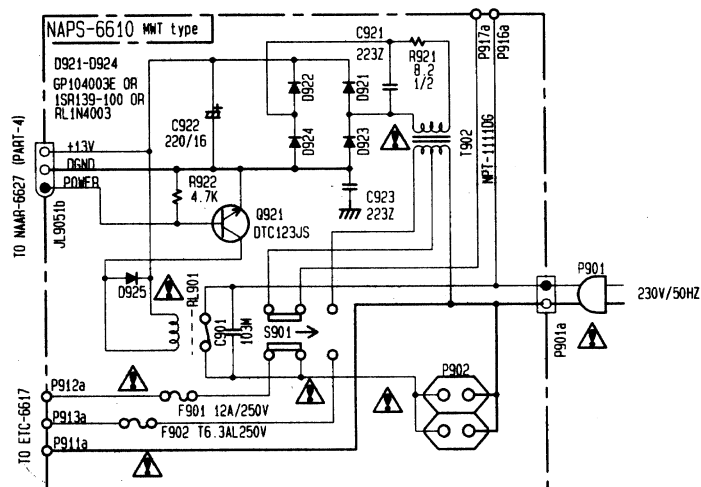
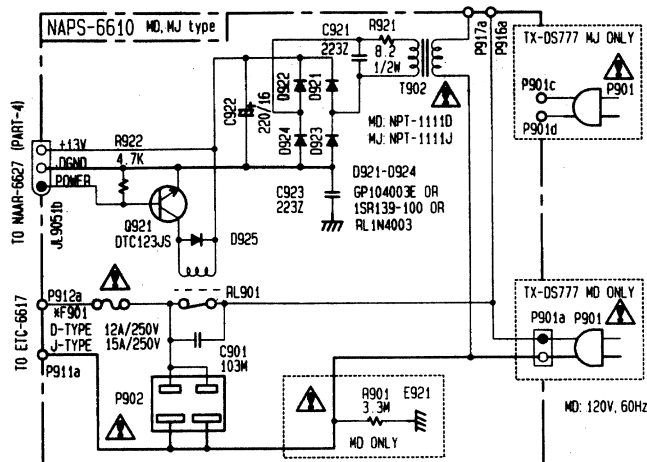
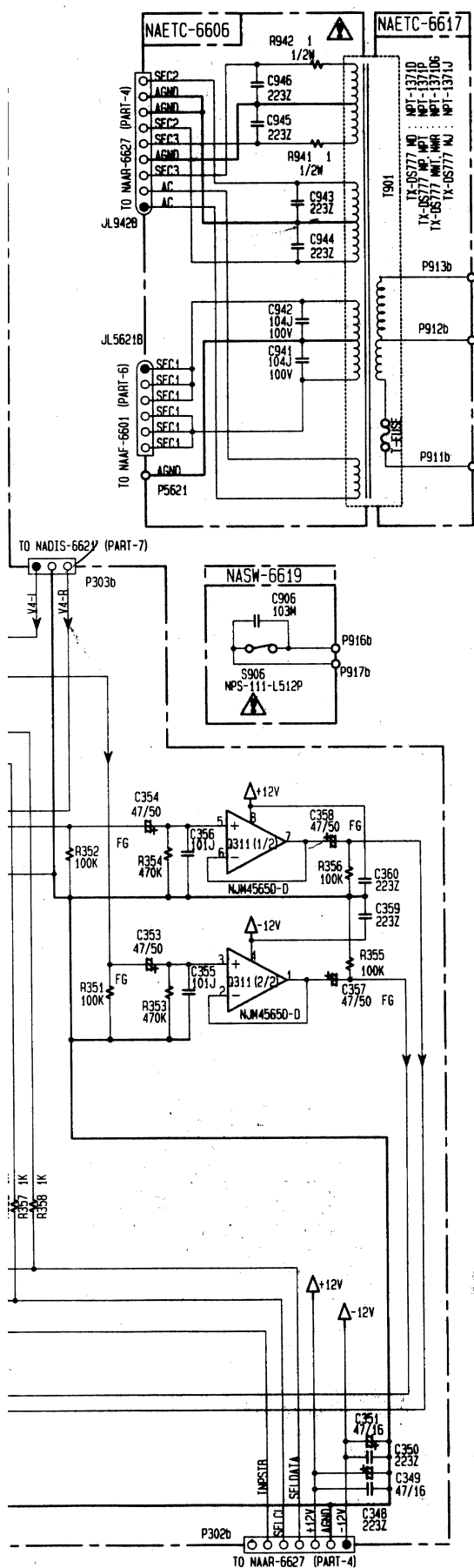
D



E

F

G



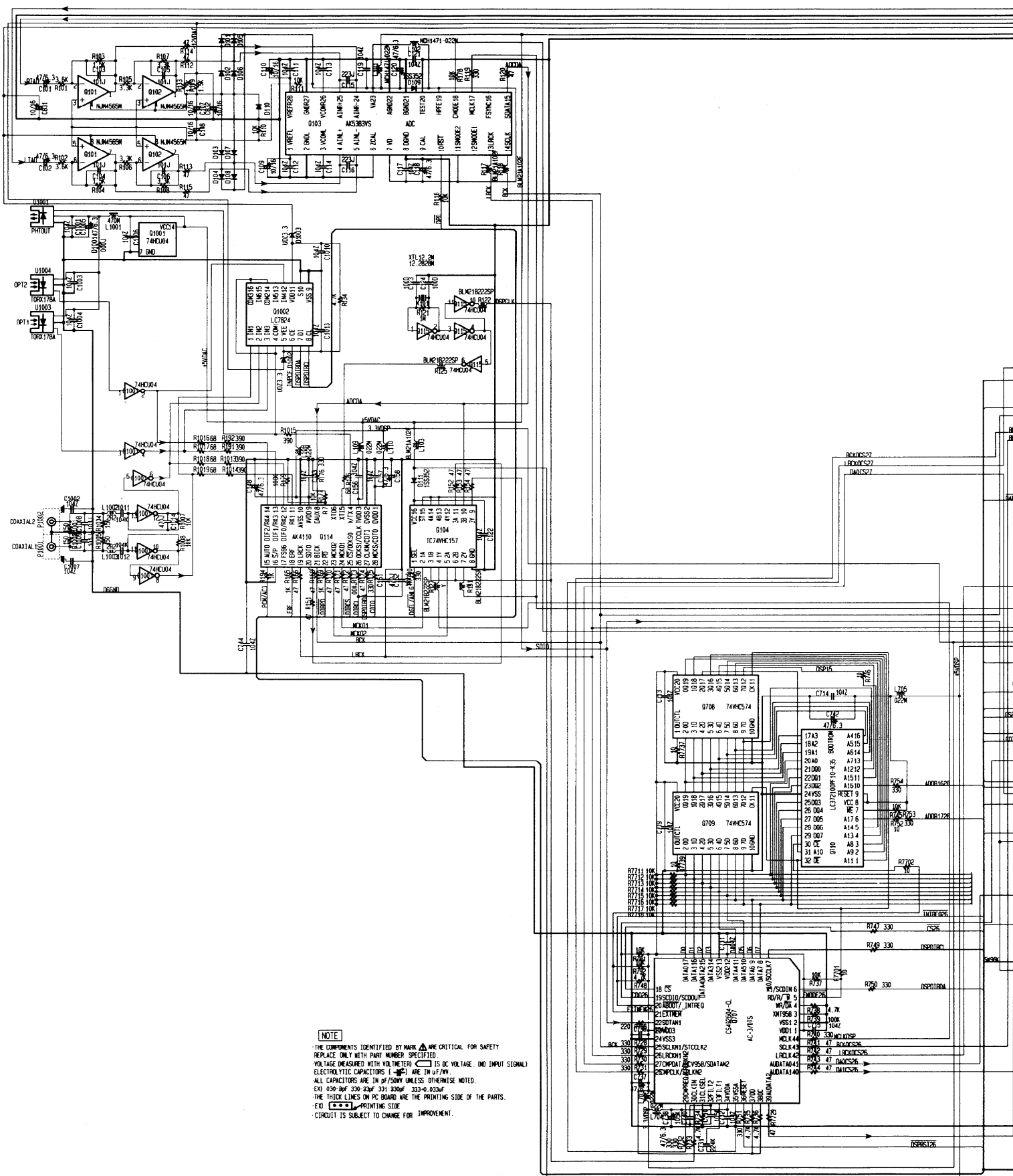
A

B

C

D

DIAGRAM 5

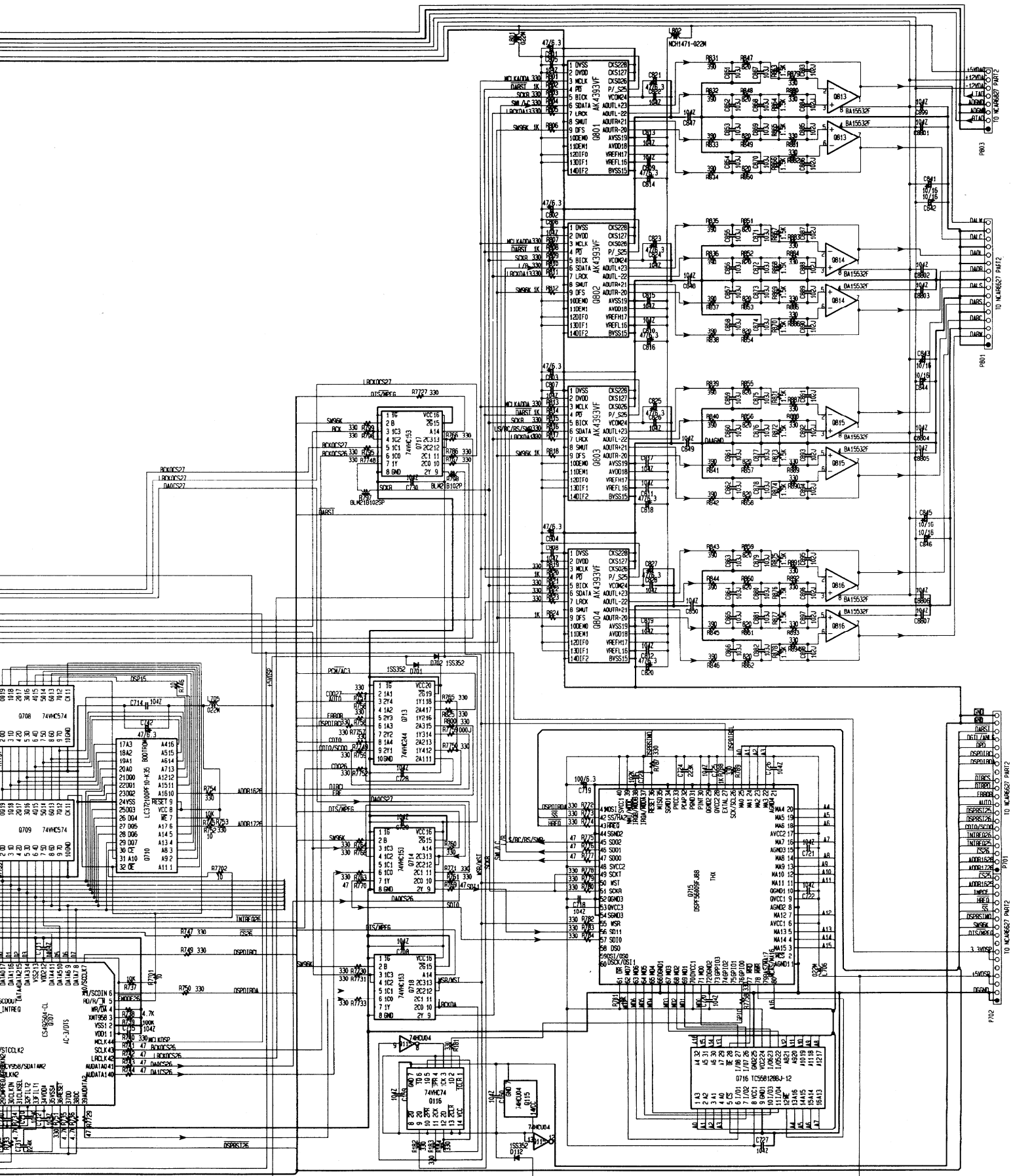


D

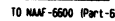
E

F

G

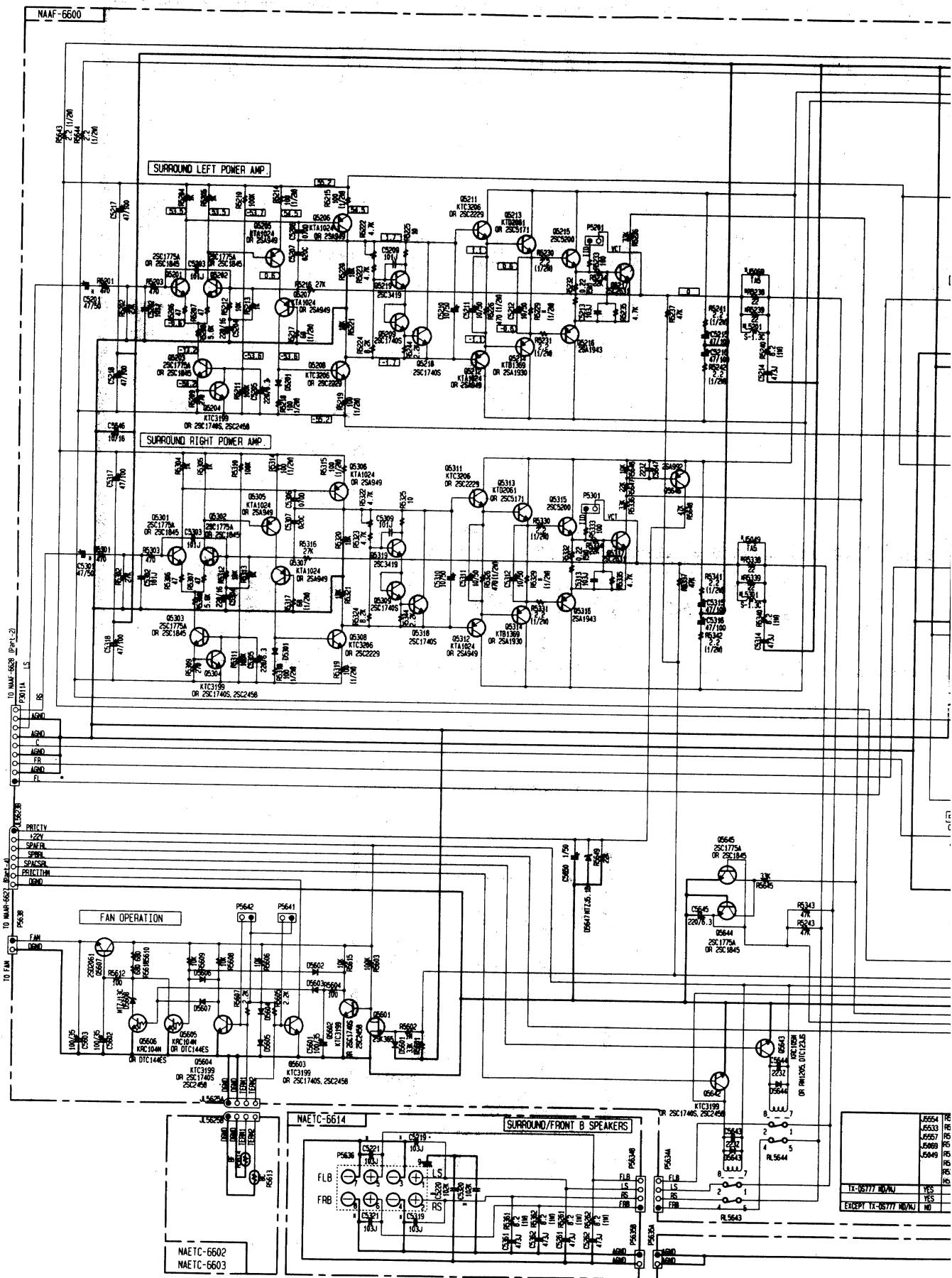


D





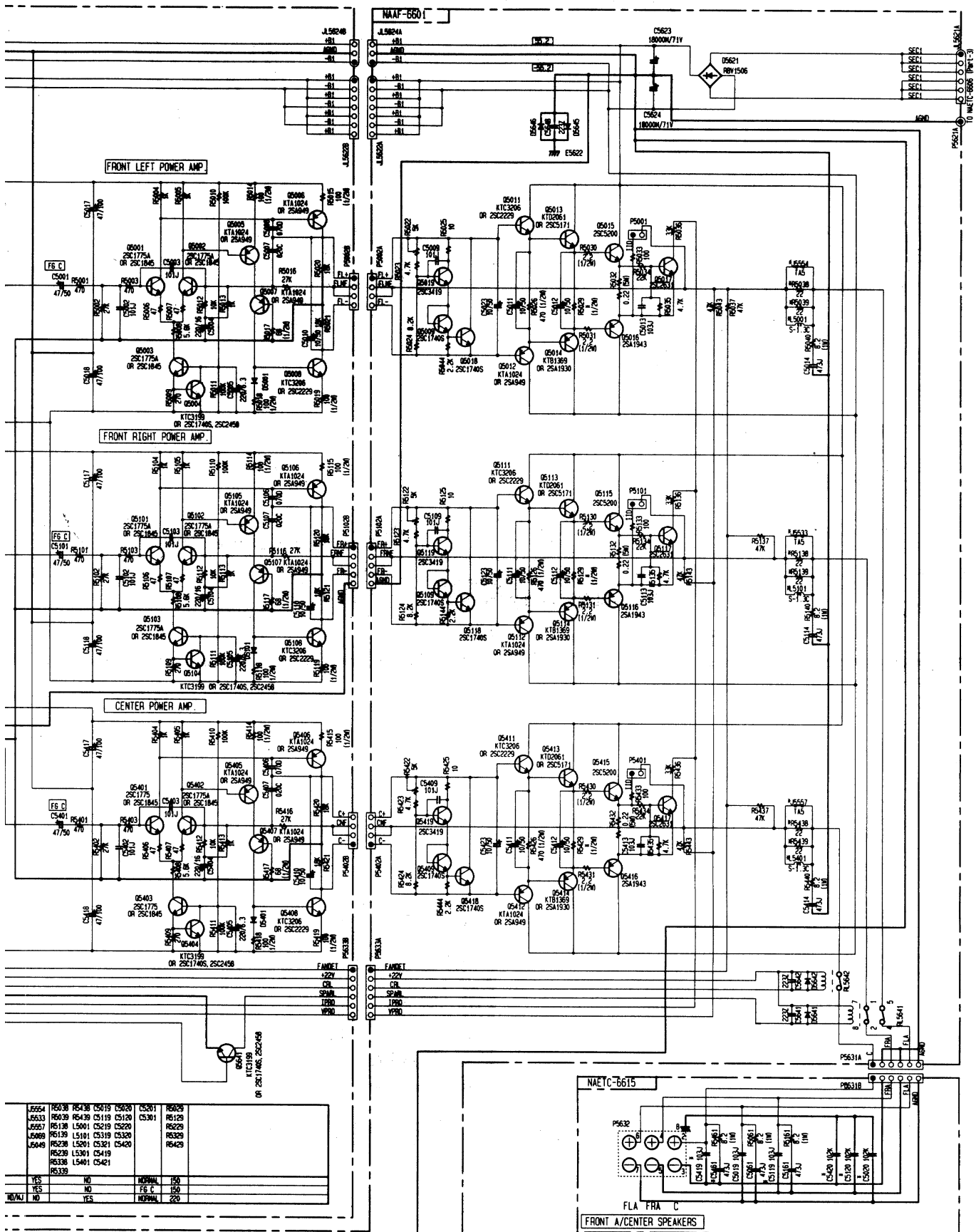
SCHEMATIC DIAGRAM 6



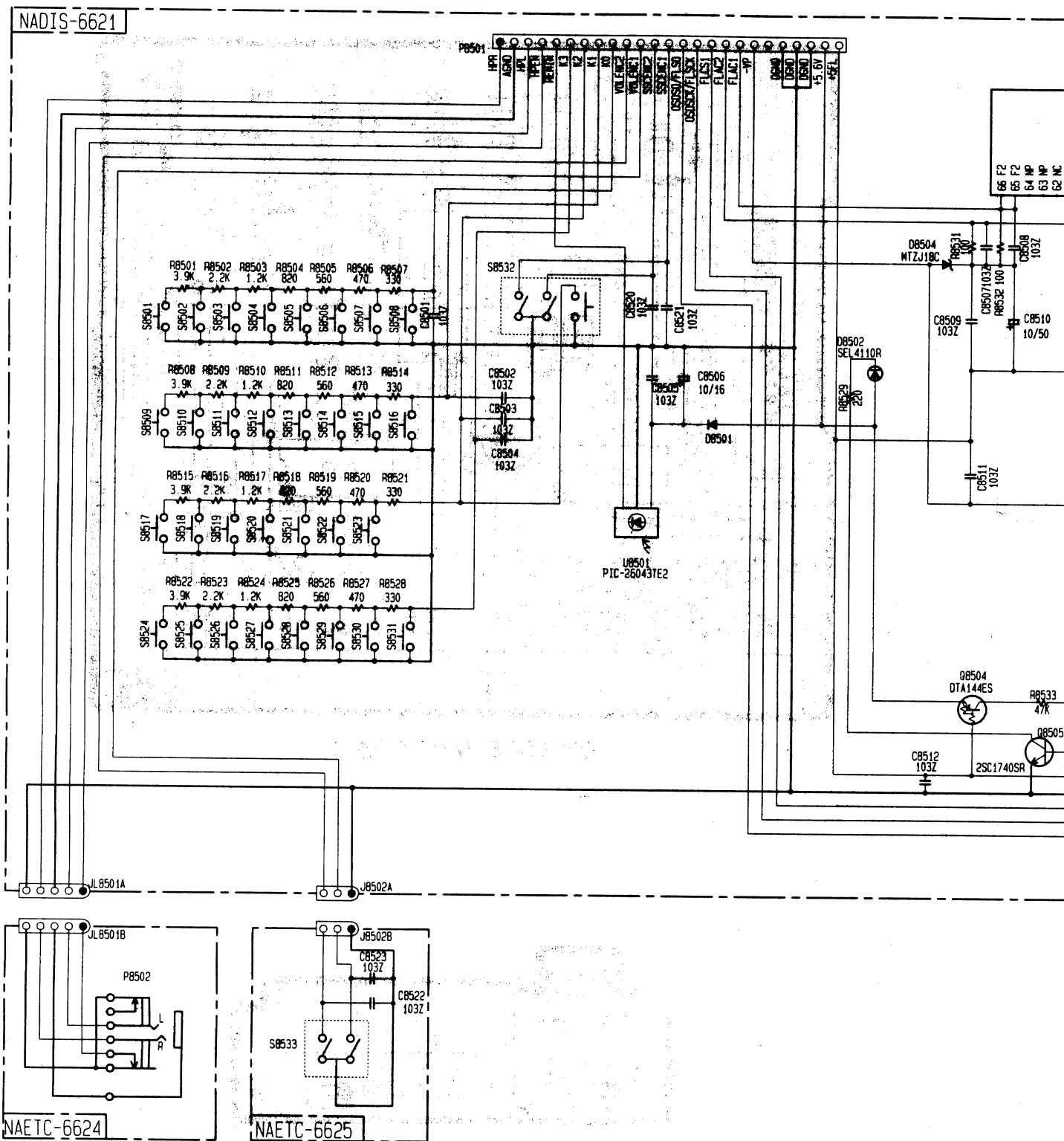
E

F

G



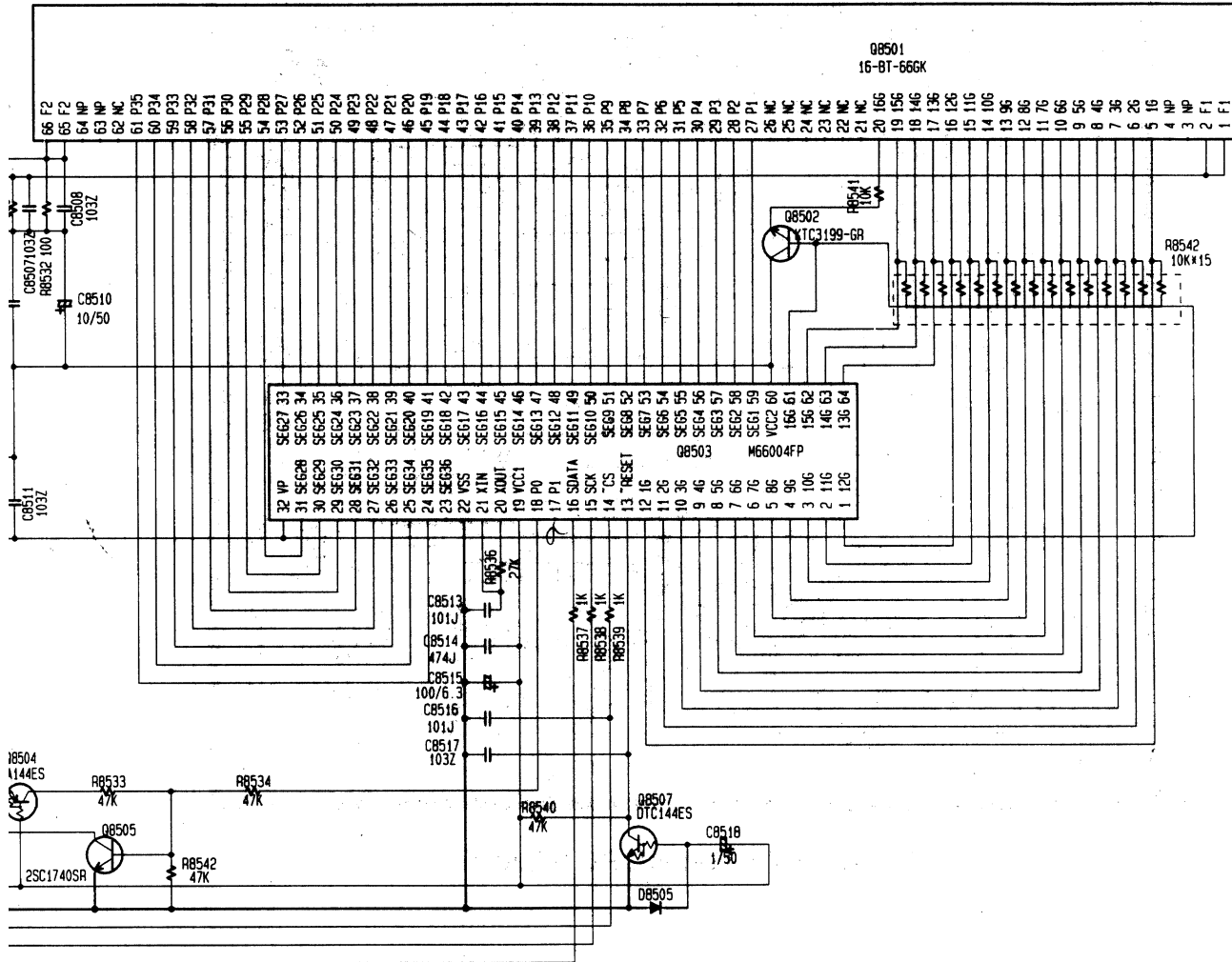
SCHEMATIC DIAGRAM 7



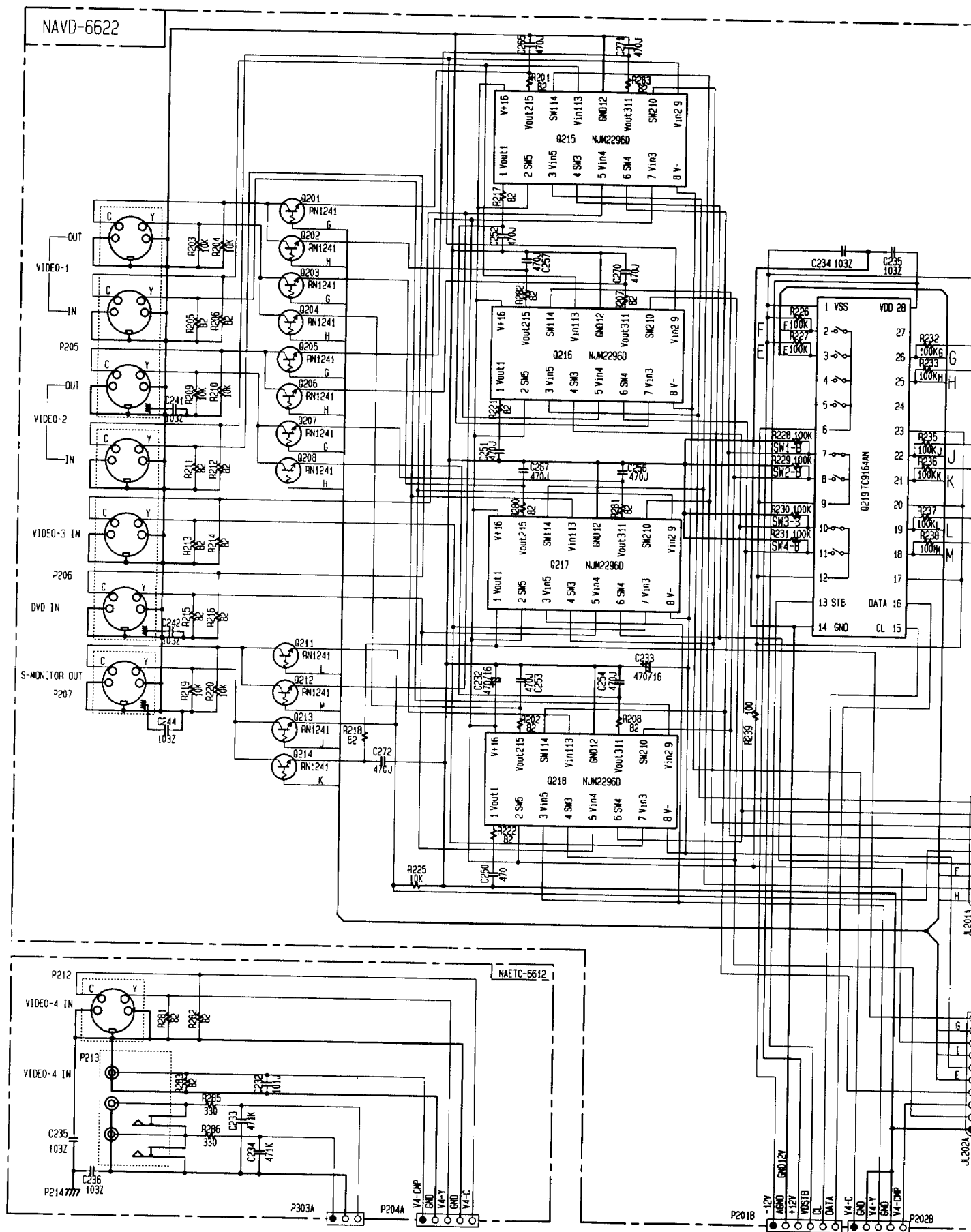
E

F

G



SCHEMATIC DIAGRAM 8



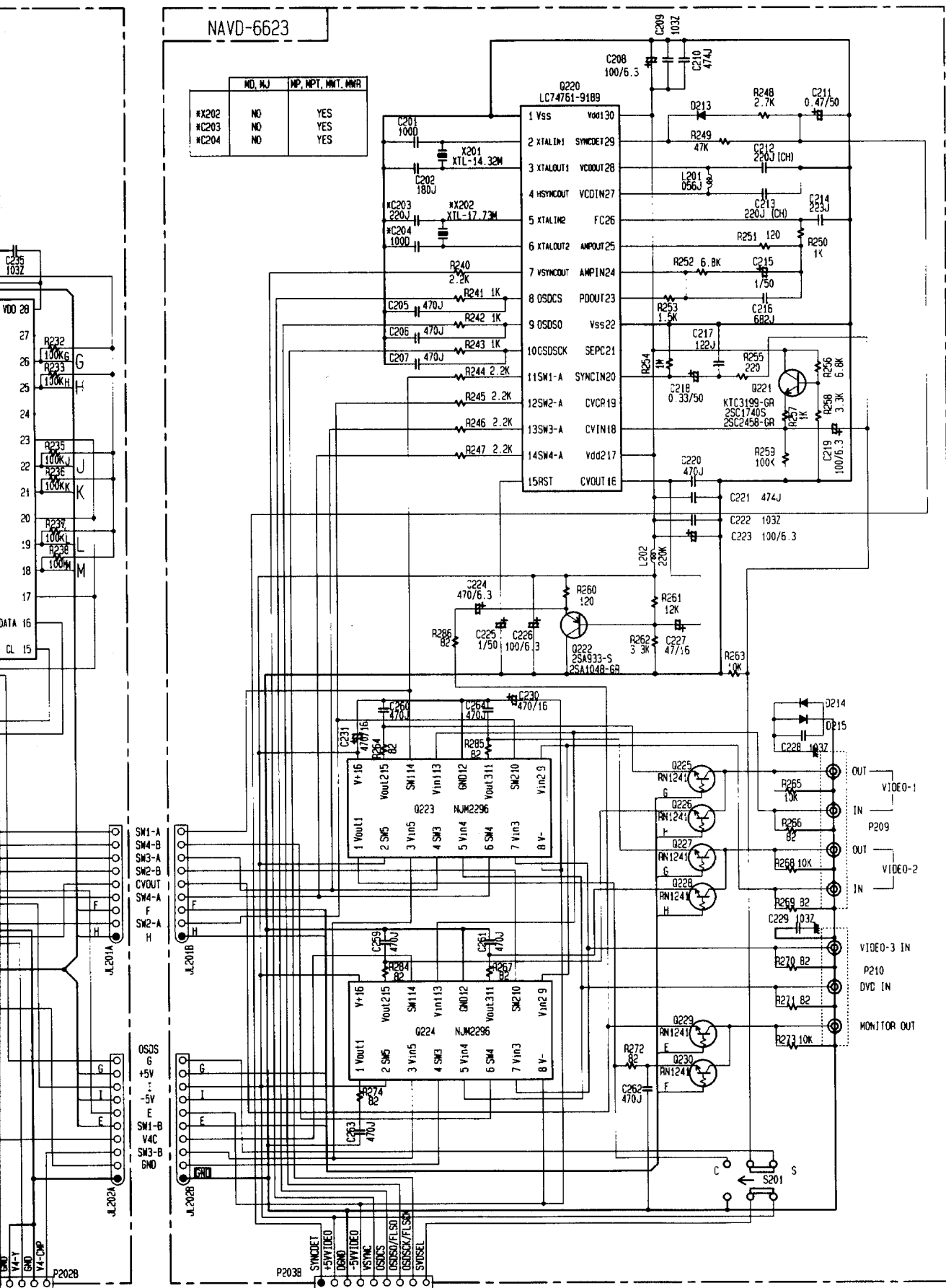
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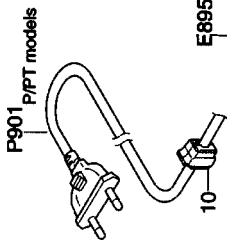
F

G

NAVD-6623

	MD, MJ	MP, MPT, MMT, MMR
*X202	NO	YES
*C203	NO	YES
*C204	NO	YES





PARTS LIST

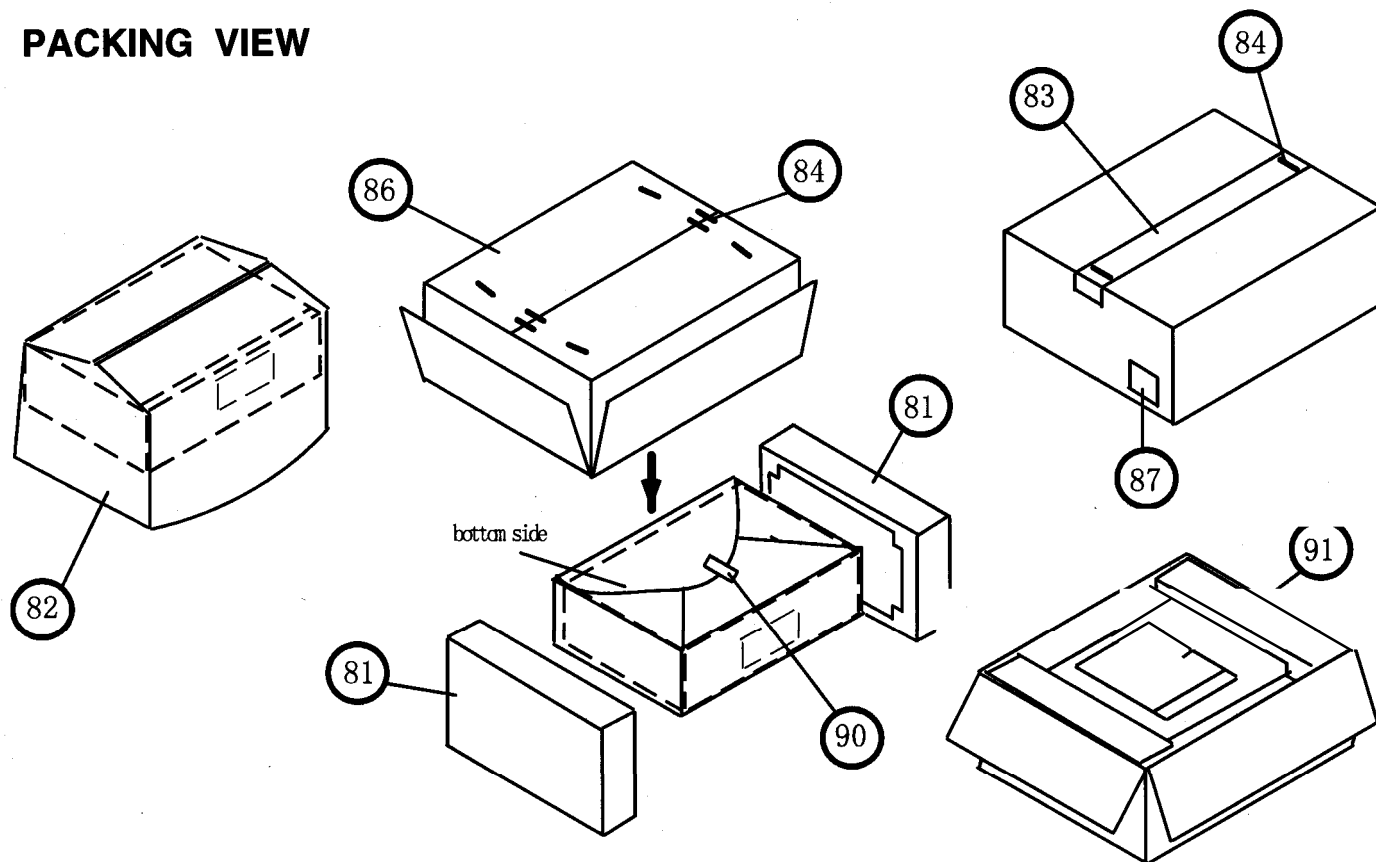
REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
1	27111116	Front bracket 	37	87643010	W3*10F(BC),Flat washer
	27111117	Front bracket <G>	38	838930088	3TTB+8B(UN),Self-tapping screw
2	82143010	3P+10FN(BC),Pan head screw	39	838430068	3TTB+6B(BC),Self-tapping screw
3	27100373A	Chassis	40	27212100	Front panel
4	27130824B	Bracket PT		27212101	Front panel <G>
5	27190813	KGPS-10RF,Holder	41	28198778	Facet
6	27190965	Holder	42	28135244Y	Badge
7	27190428A	KGLS-10RF,Holder		28135245	Badge <G>
8	27190470	KGLS-18S,Holder	43	838130088	3TTB+8B,Self-tapping screw
9	830440089	4TTC+8C(BC),Self-tapping screw	44	27215323	Decorative frame <D>
10	27300750	△ #2271,Bushing,cord		27215324	Decorative frame <P>
11	27301396	HL-28-0,Clamp		27215325	Decorative frame <W>
12	27160446B	Heat sink		27215326	Decorative frame <G>
13	801433	3SMS8W,SW+14B(BC),Special screw	45	28141336Y	Cushion
14	27141681	Retainer PWB	D5621	22380044	RBV-1506,Diode
15	27141740	Retainer L	E801	260208	Wire tie
16	27141741	Retainer R	E811	223025	△ AC262,Isolated sheet
18	27141742	Retainer, fan	E821	24502308	D09T-24PG07(EX),Fan
19	838150108	5TTB+10B,Self-tapping screw	E895	880048	P-3055B-8L,Plastic rivet <P/T>
20	27141743	Retainer F	F901	252196	△ 12A-UL/T-314,Fuse <D/W>
21	27150439	Shield plate	F902	252079 or	△ 6.3A-SE-EAK or
22	28191851A	Clear plate		252245	△ 6.3A-SE-TI.250V,Fuse <P/T/W>
23	28133385	Back plate 	F903	252241 or	△ 2.5A-SE-TL250V or
	28133386	Back plate <G>		252075	△ 2.5A-SE-EAK,Fuse <P/T>
24	28325497A	Knob,Power 	F941,F942	252160	△ 2.5A-UL/T-237,Fuse <D>
	28325499A	Knob,Power <G>		252241 or	△ 2.5A-SE-TL250V or
25	27190902	KGPS-16S,Holder		252075	△ 2.5A-SE-EAK, Fuse <P/T/W>
26	28184757	Top cover 	P8002	2047151512	NCFC7-151512,Flexible flat cable
	28184758	Top cover <G>	P821	25055945	NPLG-2P898,Plug
27	28141272Y	10x60x20,Cushion	P8501	2047255012	NCFC7-255012,Flexible flat cable
28	838430088	3TTB+8B(BC), Self-tapping screw 	P901	253289HIT or	△ AS-UC-2#18 or
	838930088	3TTB+8B(UN), Self-tapping screw <G>		253281VOL	△ AS-UC-2#18,Power supply cord <D>
31	27175319A	Leg		253246KAW	△ AS-CEE-2,Power supply cord <P/T>
32	28141332	Cushion		253274KAW	△ AS-CCEE,Power supply cord <WR>
33	831430088	3TTW+8B(BC),Self-tapping screw		253287HIT	△ AS-CCEE,Power supply cord <WT>
34	28325665	Knob SS 	Q5015,Q5115	2202822 or	* 2SC5200-R or
	28325666	Knob SS <G>	Q5215,Q5315	2202823	* 2SC5200-O,Transistor
35	28325651	Knob, Volume 	Q5016,Q5116	2202812 or	* 2SA1943-R or
	28325653	Knob, Volume <G>	Q5216,Q5316	2202813	* 2SA1943-O,Transistor
36	27122589	Rear panel <D>	Q5019,Q5119	2212863 or	2SC3419-O or
	27122590	Rear panel <P>	Q5419	2212864	2SC3419-Y,Transistor
	27122591	Rear panel <T>	Q5415	2202822 or	* 2SC5200-R or
	27122592	Rear panel <WT>		2202823	* 2SC5200-O,Transistor
	27122593	Rear panel <WR>	Q5416	2202812 or	* 2SA1943-R or
				2202813	* 2SA1943-O,Transistor

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
T901	2301410	△ NPT-1371D,Power transformer <D>	U14	1A837519-1A	NASW-6619-1A,Power switch PC board ass'y <D>
	2301411	△ NPT-1371P,Power transformer <P/T>		1A837519-1B	NASW-6619-1B,Power switch PC board ass'y <P>
	2301412	△ NPT-1371DG,Power transformer <W>		1A837519-1C	NASW-6619-1C,Power switch PC board ass'y <W>
U1	1A837500-1A	NAAF-6600-1A,Power amplifier PC board ass'y <D>		1A837519-1E	NASW-6619-1E,Power switch PC board ass'y <T>
	1A837500-1B	NAAF-6600-1B,Power amplifier PC board ass'y <P/T/W>	U15	1A837521-1A	NADIS-6621-1A,Display circuit PC board ass'y <D>
U2	1A837501-1A	NAAF-6601-1A,Front/center power amplifier PC board ass'y <D>		1A837521-1B	NADIS-6621-1B,Display circuit PC board ass'y <P>
	1A837501-1B	NAAF-6601-1B,Front/center power amplifier PC board ass'y <P/T/W>		1A837521-1C	NADIS-6621-1C,Display circuit PC board ass'y <T/W>
U3	1A837502-1A	NAETC-6602-1A,Thermal detector PC board ass'y <D>	U16	1A837522-1A	NAVD-6622-1A,S- video terminal PC board ass'y <D>
	1A837502-1B	NAETC-6602-1B,Thermal detector PC board ass'y <P/T/W>		1A837522-1B	NAVD-6622-1B,S- video terminal PC board ass'y <P>
U4	1A837506-1A	NAETC-6606-1A,Secondary circuit PC board ass'y <D>		1A837522-1C	NAVD-6622-1C,S- video terminal PC board ass'y <T/W>
	1A837506-1B	NAETC-6606-1B,Secondary circuit PC board ass'y <P/T/W>	U17	1A837523-1A	NAVD-6623-1A,On-screen PC board ass'y <D>
U5	1A837508-1A	NADG-6608-1A,DSP circuit PC board ass'y <D>		1A837523-1B	NAVD-6623-1B,On-screen PC board ass'y <P>
	1A837508-1B	NADG-6608-1B,DSP circuit PC board ass'y <P/T/W>		1A837523-1C	NAVD-6623-1C,On-screen PC board ass'y <T/W>
U6	1A837510-1A	NAPS-6610-1A,Primary circuit PC board ass'y <D>	U18	1A837524-1A	NAETC-6624-1A,Headphone terminal PC board ass'y <D>
	1A837510-1B	NAPS-6610-1B,Primary circuit PC board ass'y <P>		1A837524-1B	NAETC-6624-1B,Headphone terminal PC board ass'y <P>
	1A837510-1C	NAPS-6610-1C,Primary circuit PC board ass'y <W>		1A837524-1C	NAETC-6624-1C,Headphone terminal PC board ass'y <T/W>
	1A837510-1E	NAPS-6610-1E,Primary circuit PC board ass'y <T>	U19	1A837525-1A	NAETC-6625-1A,Mian volume PC board ass'y <D>
U7	1A837511-1A	NAAF-6611-1A,Input terminal PC board ass'y <D>		1A837525-1B	NAETC-6625-1B,Mian volume PC board ass'y <P>
	1A837511-1B	NAAF-6611-1B,Input terminal PC board ass'y <P>		1A837525-1C	NAETC-6625-1C,Mian volume PC board ass'y <T/W>
	1A837511-1C	NAAF-6611-1C,Input terminal PC board ass'y <W>	U20	1A837527-1A	NAAR-6627-1A,Main circuit PC board ass'y <D>
	1A837511-1E	NAAF-6611-1E,Input terminal PC board ass'y <T>		1A837527-1B	NAAR-6627-1B,Main circuit PC board ass'y <P>
U8	1A837512-1A	NAETC-6612-1A,Front video terminal PC board ass'y <D>		1A837527-1C	NAAR-6627-1C,Main circuit PC board ass'y <T>
	1A837512-1B	NAETC-6612-1B,Front video terminal PC board ass'y <P>		1A837527-1D	NAAR-6627-1D,Main circuit PC board ass'y <W>
	1A837512-1C	NAETC-6612-1C,Front video terminal PC board ass'y <W>	U21	1A837528-1A	NAAF-6628-1A,Preamplifier PC board ass'y <D>
	1A837512-1E	NAETC-6612-1E,Front video terminal PC board ass'y <T>		1A837528-1B	NAAF-6628-1B,Preamplifier PC board ass'y <P>
U9	1A837513-1A	NAETC-6613-1A,Holder for PC board <D>		1A837528-1C	NAAF-6628-1C,Preamplifier PC board ass'y <T>
	1A837513-1B	NAETC-6613-1B,Holder for PC board <P>		1A837528-1D	NAAF-6628-1D,Preamplifier PC board ass'y <W>
	1A837513-1C	NAETC-6613-1C,Holder for PC board <W>	U24	25136607	NCETC-6607,Holder PC board <D>
	1A837513-1E	NAETC-6613-1E,Holder for PC board <T>	U25	25136723	NCETC-6723,Holder PC board <D>
U10	1A837514-1A	NAETC-6614-1A,Surround/front B speaker terminal PC board ass'y <D>	U31	240134	TFCE1U114A,Tuner pack <D>
	1A837514-1B	NAETC-6614-1B,Surround/front B speaker terminal PC board ass'y <P>		240135	TFCE1E512A,Tuner pack <P/T/W>
	1A837514-1C	NAETC-6614-1C,Surround/front B speaker terminal PC board ass'y <W>			
	1A837514-1E	NAETC-6614-1E,Surround/front B speaker terminal PC board ass'y <T>			
U11	1A837515-1A	NAETC-6615-1A,Front/center speaker terminal PC board ass'y <D>			
	1A837515-1B	NAETC-6615-1B,Front/center speaker terminal PC board ass'y <P>			
	1A837515-1C	NAETC-6615-1C,Front/center speaker terminal PC board ass'y <W>			
	1A837515-1E	NAETC-6615-1E,Front/center speaker terminal PC board ass'y <T>			
U12	1A837517-1A	NAETC-6617-1A,Power transformer terminal PC board ass'y <D>			
	1A837517-1B	NAETC-6617-1B,Power transformer terminal PC board ass'y <P>			
	1A837517-1C	NAETC-6617-1C,Power transformer terminal PC board ass'y <W>			
	1A837517-1E	NAETC-6617-1E,Power transformer terminal PC board ass'y <T>			
U13	1A837518-1A	NASW-6618-1A,Holder for PC board <D>			
	1A837518-1B	NASW-6618-1B,Holder for PC board <P>			
	1A837518-1C	NASW-6618-1C,Holder for PC board <W>			
	1A837518-1E	NASW-6618-1E,Holder for PC board <T>			

NOTE: : Black model only <T>: Asian model only
<G>: Golden model only <W>: Worldwide model only
<D>: 120V model only <WT>: Taiwanese model only
<P>: 230V model only <WR>: Chinese model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK
△ ARE CRITICAL FOR RISK OF FIRE AND
ELECTRIC SHOCK. REPLACE ONLY WITH
PART NUMBER SPECIFIED.

PACKING VIEW



PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
81	29091881A	Pad
82	29100153Y	1020x720,Polybag
83	29110098	PP tape
84	282301	Staple
86	29053440	Carton box <D>
	29053441	Carton box <P>
	29053442	Carton box <T/W>
	29053443	Carton box <G>
87	29362452	Label EAN <P/T/W>
	29362453	Label EAN <G>
	29362455	Label UPC <D>
90	261504	Paper tape
	29100097-1A	350*250,Polybag
	29365083	Warranty card <D>
	29095866	Instruction sheet <D>
	29342721A	Instruction manual E
	29342722	Instruction manual U3 GSWD <P>
	29342723	Instruction manual U3 FSI <P>
	29342726	Instruction manual T <T/W>
	29342725	Instruction manual <D>
	24140392A	RC-392M,remote controller
	3010054	Battery
	25055018	CV-K-1,Conversion plug <WT>
	25056005 or	CV-K-1 or
	292115	FM antenna <P/T/W>
	292142	FM antenna <D>
	25065462	YAE21-0237,FM antenna adapter <T/W>
	232140	NMA-3057,AM loop antenna

NOTE: : Black model only
 <G>: Golden model only
 <D>: 120V model only
 <P>: European model only

<T>: Asian model only
 <W>: Worldwide model only
 <WT>: Taiwanese model only

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